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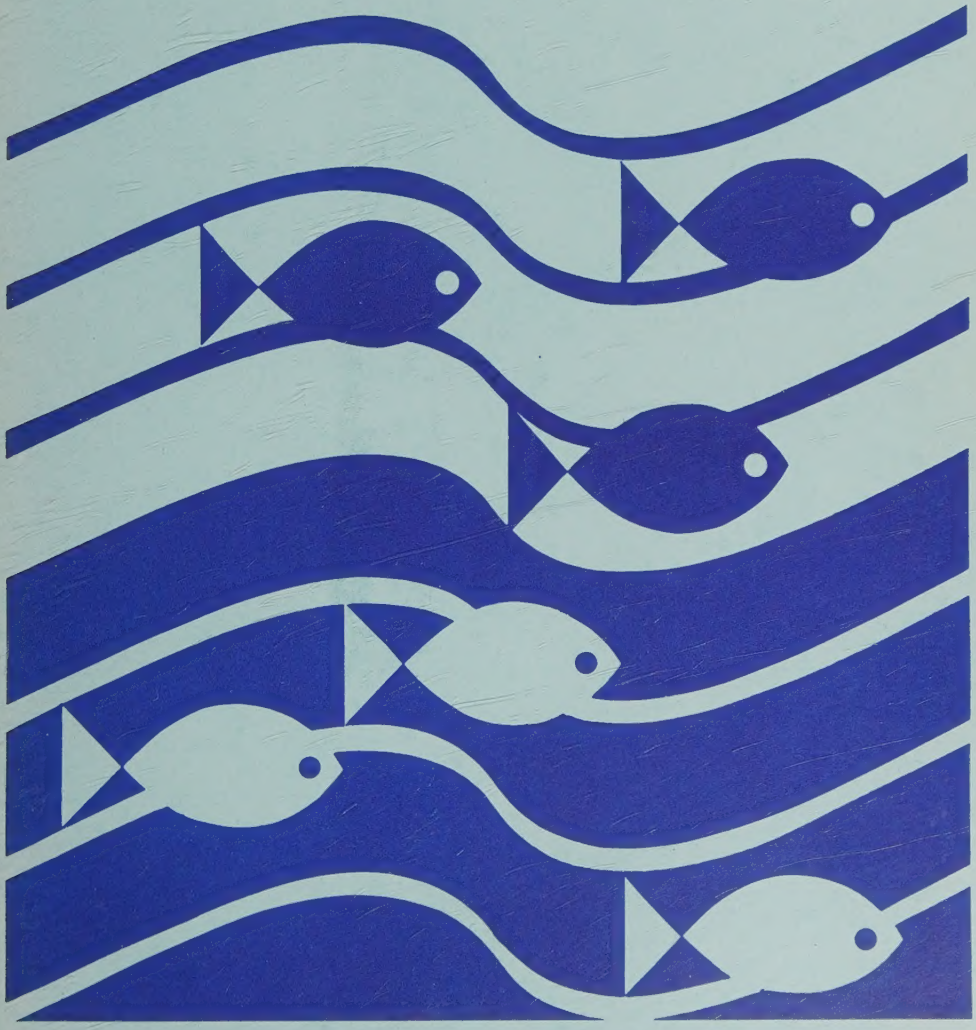

Fisheries Review

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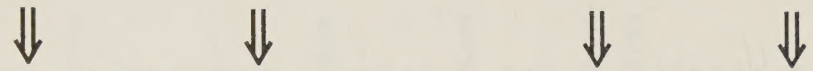

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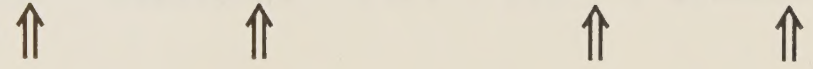

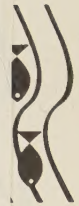

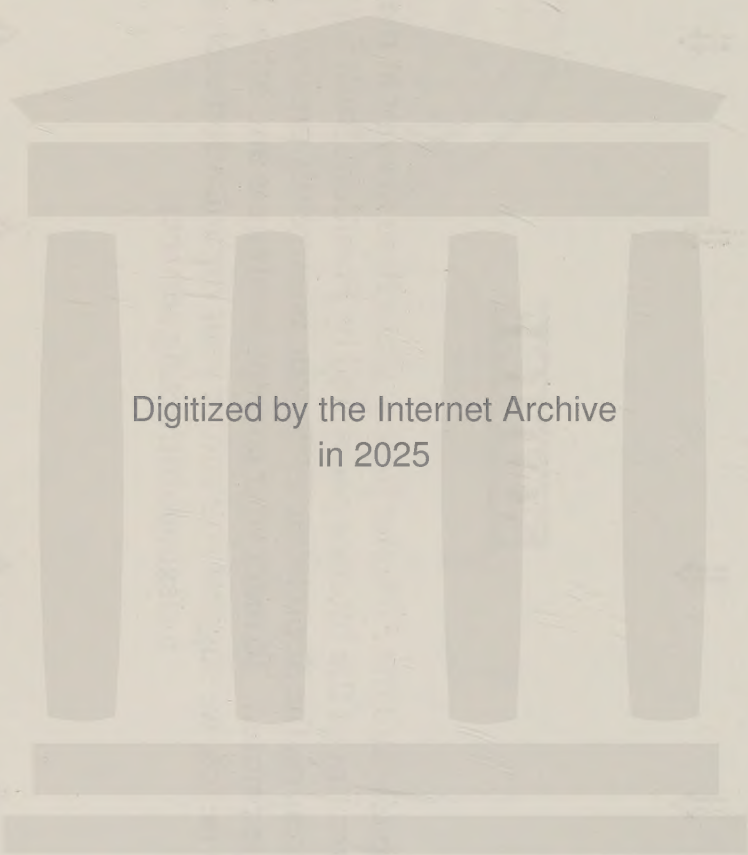
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EDITOR'S NOTE

The editorial staff of Fisheries Review uses the conventions of the American Fisheries Society's Committee on Names of Fishes as the primary source for taxonomic names. The rulings of that committee are reflected in the distinguishing of Pacific salmons and trouts at the generic level as *Oncorhynchus* and the changing of *Salmo gairdneri* to *Oncorhynchus mykiss* in this issue of Fisheries Review. Additionally, the three previously recognized genera of tilapias (*Oreochromis*, *Sarotherodon*, and *Tilapia*) have been combined in the genus *Tilapia*. Other taxonomic changes may be noted in our attempts to standardize our nomenclature with that of the American Fisheries Society.

AQUATIC PLANTS AND THEIR CONTROL

89-000001 Breden, Chris and Kimon T. Bird. USE OF *POECILIA LATIPINNA* (SAILFIN MOLLY) FOR CONTROL OF NUISANCE ALGAE IN *GRACILARIA VERRUCOSA* STRAIN G-16 (SEAWEED) CULTURE. *J. World Aquacult. Soc.* 19(3):161-162. 1988. FR 34(1)
[Bird: Div. Appl. Biol., Harbor Branch Oceanogr. Inst., 5600 Old Dixie Hwy., Fort Pierce, FL 34946]

89-000002 Murphy, Thomas Patrick D. THE REGULATION OF BLUE-GREEN ALGAE BY IRON AVAILABILITY AND CALCITE PRECIPITATION. *Ph.D. dissertation, Univ. British Columbia* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1519. 1988. FR 34(1)

GENERAL FISH CULTURE

89-000003 Ashley, Keith W. and Bobby Buff. POND OWNER UTILIZATION OF MANAGEMENT RECOMMENDATIONS MADE BY STATE FISHERY PERSONNEL. *Fisheries (Bethesda)* 13(6):12-14. 1988. FR 34(1)
[Wildl. Resour. Comm., 512 N. Salisbury St., Raleigh, NC 27611]

89-000004 Bennett, William N. and Martin E. Boraas. ISOLATION OF A FAST-GROWING STRAIN OF THE ROTIFER *BRACHIONUS CALYCIFLORUS* PALLAS USING TURBIDOSTAT CULTURE. *Aquaculture* 73(1-4):27-36. 1988. FR 34(1)
[Dep. Biol. Sci. & Cent. Great Lakes Studies, Univ. Wis., Milwaukee 53201]

89-000005 Chua, Thia-Eng. AN OVERVIEW OF THE FISHERIES AND AQUACULTURE INDUSTRIES IN ASIA. *Proc. Asian Fish. Forum* 1:1-8. 1986. FR 34(1)

89-000006 Dunkle, Frank H.; Steven R. Robinson and Gary B. Edwards. FISH AND FISH EGG DISTRIBUTION REPORT OF THE NATIONAL FISH HATCHERY SYSTEM. *U.S. Fish Wildl. Serv. Fish Fish Egg Distrib. Rep.* No. 22. 62p. 1987. Available from U.S. Fish & Wildl. Serv., Office Admin.-Fish., Matomic Bldg. 625, 18th & C St., N.W., Washington, DC 20240. FR 34(1)

89-000007 Floyd, R. Francis and M. H. Beleau. AQUARIUM FISH HEALTH MANAGEMENT. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):62-67. 1986. FR 34(1)
[Coll. Vet. Med. & Delta Branch Exp. Stn. Miss. State Univ., Stoneville 38776]

89-000008 I-Chiu Liao. EAST MEETS WEST: AN EASTERN PERSPECTIVE OF AQUACULTURE. *J. World Aquacult. Soc.* 19(2):62-73. 1988. FR 34(1)
[Taiwan Fish. Res. Inst., 199 Hou-Ih Rd., Keelung, Taiwan 20220]

89-000009 Kanazawa, Akio. NEW DEVELOPMENTS IN FISH NUTRITION. *Proc. Asian Fish. Forum* 1:9-14. 1986. FR 34(1)
[Fac. Fish., Kagoshima Univ., 4-50-20 Shimoarata, Kagoshima 890, Japan] *Plecoglossus altivelis* and *Cyprinus carpio*.

89-000010 Landesman, L.; K. F. Smith and T. J. Lam. EFFECT OF DIETARY PROTEIN LEVELS ON OVARIAN MAINTENANCE AND REPRODUCTIVE PERFORMANCE OF THE ADULT DWARF GORAMY, *COLISA LALIA* (HAMILTON). *Proc. Asian Fish. Forum* 1:585-588. 1986. FR 34(1)
[Dep. Zool., Natl. Univ. Singapore, Kent Ridge 0511, Singapore]

GENERAL FISH CULTURE (CONTINUED)

89-000011 Madenjian, Charles M.; Gary L. Rogers and Arlo W. Fast. PREDICTING NIGHTTIME DISSOLVED OXYGEN LOSS IN AQUACULTURE PONDS. *Can. J. Fish. Aquat. Sci.* 45(10):1842-1847. 1988. In English with French summ. FR 34(1)
[Inst. Mar. Biol., Univ. Hawaii, P.O. Box 1346, Honolulu 96744]

89-000012 McDowall, Bob. FRESHWATER AQUACULTURE IN NEW ZEALAND - WHERE DO WE GO FROM HERE? *Freshwater Catch* No. 38. p. 6-7. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand]

89-000013 Nash, Colin E. A GLOBAL OVERVIEW OF AQUACULTURE PRODUCTION. *J. World Aquacult. Soc.* 19(2):51-58. 1988. FR 34(1)
[Aquacult. Dev. & Coordination Programme (ADCP), FAO, Rome, Italy]

89-000014 Rosario, Westly R. TRANSFER OF FISH CULTURE TECHNOLOGY IN CENTRAL LUZON, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 174-179. 1985. FR 34(1)
[Bur. Fish. & Aquat. Resour., Munoz, Nueva Ecija, Philippines]

89-000015 Sandifer, Paul A. AQUACULTURE IN THE WEST, A PERSPECTIVE. *J. World Aquacult. Soc.* 19(2):73-84. 1988. FR 34(1)
[Mar. Resour. Div., Wildl. & Mar. Resour. Dep., P.O. Box 12559, Charleston, SC 29412]

89-000016 Smith, Daniel Wilkins III. BIOLOGICAL CONTROL OF EXCESSIVE PHYTOPLANKTON AND ENHANCEMENT OF AQUACULTURAL PRODUCTION. *Ph.D. dissertation, Univ. Calif., Santa Barbara* 206p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1519. 1988. Order No. DA8812162. FR 34(1)
Hypophthalmichthys molitrix.

TROUT AND SALMON CULTURE

89-000017 Bailey, John Kenneth. SELECTION CRITERIA FOR SEA RANCHED AND CAGE REARED ATLANTIC SALMON (*SALMO SALAR*). *Ph.D. dissertation, Univ. Guelph (Canada)* 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1514. 1988. FR 34(1)

89-000018 Brannas, E. EMERGENCE OF BALTIC SALMON, *SALMO SALAR* L., IN RELATION TO TEMPERATURE: A LABORATORY STUDY. *J. Fish Biol.* 33(4):589-600. 1988. FR 34(1)
[Dep. Anim. Ecol., Univ. Umea, S-901 87 Umea, Sweden]

89-000019 Breiby, Anne. REGULATIONS ON AQUACULTURE DEVELOPMENT IN NORWAY - LEGISLATION AND PRACTICE. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 61-68. 1986. FR 34(1)
[Regional Fish. Office, Nordland Cty., Norway]

89-000020 Bryceson, Ian. ENVIRONMENTAL FACTORS AFFECTING SALMONID FARMING IN NORWAY AND A NEW METHOD FOR CONTROL: THE "MAREMER" TECHNIQUE. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 82-93. 1986. FR 34(1)
[MARENOR a.s., Postboks 144, 3470 Slemmestad, Norway]

TROUT AND SALMON CULTURE (CONTINUED)

89-000021 Chacon-Torres, A.; L. G. Ross and M. C. M. Beveridge. THE EFFECTS OF FISH BEHAVIOUR ON DYE DISPERSION AND WATER EXCHANGE IN SMALL NET CAGES. *Aquaculture* 73(1-4):283-293. 1988. FR 34(1)
[Inst. Aquacult., Univ. Stirling, Stirling FK9 4LA, Scotland] *Oncorhynchus mykiss.*

89-000022 Dobrowolski, Zbigniew. THE EFFECT OF CAGE AQUACULTURE OF RAINBOW TROUT ON THE DISTRIBUTION AND STABILITY OF MACROBENTHOS IN EUTROPHIC LAKE LETOWSKIE. *Ekol. Pol.* 35(3-4):611-638. 1987. FR 34(1)
[Dep. Ecol. & Protection Environ., Educational Univ., Arciszewskiego 22b, 76-200 Slupsk, Poland] *Oncorhynchus mykiss* in Poland.

89-000023 Field-Dodgson, Michael. OCEAN RANCHING OF CHINOOK SALMON - KEEP IT NATURAL. *Freshwater Catch* No. 36. p. 8-9. 1988. FR 34(1)
Oncorhynchus tshawytscha.

89-000024 Gall, G. A. E. and N. Huang. HERITABILITY AND SELECTION SCHEMES FOR RAINBOW TROUT: FEMALE REPRODUCTIVE PERFORMANCE. *Aquaculture* 73(1-4):57-66. 1988. FR 34(1)
[Dep. Anim. Sci., Aquacult. & Fish. Program, Univ. Calif., Davis 95616] *Oncorhynchus mykiss.*

89-000025 Gall, G. A. E. and N. Huang. HERITABILITY AND SELECTION SCHEMES FOR RAINBOW TROUT: BODY WEIGHT. *Aquaculture* 73(1-4):43-56. 1988. FR 34(1)
[Dep. Anim. Sci., Aquacult. & Fish. Program, Univ. Calif., Davis 95616] *Oncorhynchus mykiss.*

89-000026 Getchell, Rod. ENVIRONMENTAL EFFECTS OF SALMON FARMING. *Aquacult. Mag.* 14(6):44-47. 1988. FR 34(1)
[Dep. Mar. Resour., W. Boothbay Harbor, ME 04575]

89-000027 Glenn, C. L. and J. A. Mathias. SEX RATIOS OF YOUNG-OF-THE-YEAR WALLEYE (*STIZOSTEDION VITREUM*) COLLECTED FROM LAKES AND REARING PONDS OF WESTERN CANADA AND NORTHERN UNITED STATES. *Can. J. Zool.* 66(8):1772-1776. 1988. In English with French summ. FR 34(1)
[Zool. Dep., Brandon Univ., Brandon, MB, Canada R7A 6A9]

89-000028 Hiroi, Osamu; Shigehiko Urawa and Tsutomu Kuramoto. [OPTIMUM WATER TEMPERATURE OF FERTILIZED WATER OF CHUM SALMON EGGS IN THE ARTIFICIAL FERTILIZATION - 1. AN INFLUENCE OF HIGH WATER TEMPERATURE.] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 75-79. 1988. In Japanese with English summ. FR 34(1)
[Hokkaido Salmon Hatchery, Fish. Agency Japan, 2-2 Nakanoshima, Toyohira, Sapporo 062, Japan] *Oncorhynchus keta.*

89-000029 Hung, Silas S. O. PRESENT KNOWLEDGE OF WHITE STURGEON NUTRIENT REQUIREMENTS. *Aquacult. Mag.* 14(6):50-52. 1988. FR 34(1)
[Dep. Anim. Sci., Univ. Calif., Davis 95616] *Acipenser transmontanus.*

89-000030 Karlson, Kjell. "PRACTICAL EXPERIENCES IN NORWEGIAN FISH FARMING - LESSONS LEARNED AND PROBLEMS FACED." *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 127-132. 1986. FR 34(1)
[Ulvoygt 201b, 5500 Haugesund, Norway]

TROUT AND SALMON CULTURE (CONTINUED)

89-000031 Kjartansson, Helgi; Sveinung Fivelstad; Jan M. Thomassen and Michael J. Smith. EFFECTS OF DIFFERENT STOCKING DENSITIES ON PHYSIOLOGICAL PARAMETERS AND GROWTH OF ADULT ATLANTIC SALMON (*SALMO SALAR* L.) REARED IN CIRCULAR TANKS. *Aquaculture* 73(1-4):261-274. 1988. FR 34(1)
[Lindalax Fish Farm, Vatnsleysustrandarhreppur, 190 Vogar, Iceland]

89-000032 Kvalheim, Harald. FINANCING THE NORWEGIAN FISH FARMING INDUSTRY AND THE FUTURE OF THE INDUSTRY. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 26-37. 1986. FR 34(1)
[Havtuksfondet A/S, P.O. Box 34, 3701 Maaloey, Maloy, Norway]

89-000033 Lemm, Carol A.; Donald V. Rottiers; David S. Dropkin and Bernard A. Dennison. GROWTH, COMPOSITION, AND FIN QUALITY OF ATLANTIC SALMON FED DIFFERENT DIETS AT SEASONAL TEMPERATURES IN A LABORATORY AND HATCHERY. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(8):12p. 1988. Available from U.S. Fish & Wildl. Serv., Publ. Unit, Matomic Bldg., Rm. 148, Washington, DC 20240. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., Fish Cult. Res. Lab., Kearneysville, WV 25430]

89-000034 Mayama, Hiroshi; Tetsuichi Nomura and Kazumasa Ohkuma. [SEAWARD MIGRATION AND ADULT RETURN OF THE MARKED MASU SALMON, *ONCORHYNCHUS MASOU*, RELEASED IN LATE FALL BEFORE WINTERING.] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 21-36. 1988. In Japanese with English summ. FR 34(1)
[Hokkaido Salmon Hatchery, Fish. Agency Japan, 2-2 Nakanoshima, Toyohira, Sapporo 062, Japan]

89-000035 Needham, Ted. NORWEGIAN INFLUENCES ON THE SCOTTISH SALMON FARMING INDUSTRY. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 14-25. 1986. FR 34(1)

89-000036 Pozo, Rojelio; Jack Lavety and R. Malcolm Love. THE ROLE OF DIETARY α-TOCOPHEROL (VITAMIN E) IN STABILISING THE CANTHAXANTHIN AND LIPIDS OF RAINBOW TROUT MUSCLE. *Aquaculture* 73(1-4):165-175. 1988. FR 34(1)
[Res. Inst. Fish Sci. & Technol. (AZTI, AB), Sukarrieta-Vizcaya, Spain] *Oncorhynchus mykiss.*

89-000037 Rabben, Haavard. DEVELOPMENTS IN THE CULTURE OF HALIBUT, TURBOT AND COD IN NORWAY. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 57-60. 1986. FR 34(1)
[Inst. Mar. Res., Austevoll Mar. Aquacult. Stn., N-5392 Storebo, Norway] *Gadus morhua, Reinhardtius hippoglossoides,* and *Hippoglossus hippoglossus.*

89-000038 Rensel, John E.; Richard P. Harris and Timothy J. Tynan. FISHERY CONTRIBUTION AND SPAWNING ESCAPEMENT OF COHO SALMON REARED IN NET-PENS IN SOUTHERN PUGET SOUND, WASHINGTON. *N. Am. J. Fish. Manage.* 8(3):359-366. 1988. FR 34(1)
[School Fish., Univ. Wash., WH-10, Seattle 98195] *Oncorhynchus kisutch.*

89-000039 Sherkin Island Marine Station. PROCEEDINGS OF INTERNATIONAL CONFERENCE: NORWAY - THE DEVELOPMENT OF ITS FISH FARMING INDUSTRY. *Sherkin Island Mar. Stn.* 168p. 1986. FR 34(1)

TROUT AND SALMON CULTURE (CONTINUED)

89-000040 Todd, Peter. SALMON FARMING IN NEW ZEALAND - PROSPECTS FOR THE FUTURE. *Freshwater Catch* No. 38. p. 3-6. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand] *Salmo salar, Oncorhynchus nerka,* and *O. tshawytscha.*

89-000041 Wallace, Jeff C.; Arne G. Kolbeinshavn and Trond G. Reinsnes. THE EFFECTS OF STOCKING DENSITY ON EARLY GROWTH IN ARCTIC CHARR, *SALVELINUS ALPINUS* (L.). *Aquaculture* 73(1-4):101-110. 1988. FR 34(1)
[Norwegian Coll. Fish., Univ. Tromso, P.O. Box 3083, Guleng, N-9001 Tromso, Norway]

89-000042 Wallace, Jeff C. and Arne G. Kolbeinshavn. THE EFFECT OF SIZE GRADING ON SUBSEQUENT GROWTH IN FINGERLING ARCTIC CHARR, *SALVELINUS ALPINUS* (L.). *Aquaculture* 73(1-4):97-100. 1988. FR 34(1)
[Norwegian Coll. Fish., Univ. Tromso, P.O. Box 3083, Guleng, N-9001 Tromso, Norway]

WARMWATER CULTURE

89-000043 Abella, Tereso A.; Marietta S. Palada; Remedios B. Bolivar and L. James Lester. EVALUATION OF THE GROWTH PERFORMANCE OF *OREOCHROMIS NILOTICUS* PROGENIES IN FRESHWATER PONDS. *Proc. Asian Fish. Forum* 1:19-20. 1986. FR 34(1)
[Freshwater Aquacult. Cent., Cent. Luzon State Univ., Munoz, Nueva Ecija, Philippines]

89-000044 Al-Ahmad, Thani A.; Mohammed Ridha and Abdulkader A. Al-Ahmed. REPRODUCTIVE PERFORMANCE OF THE TILAPIA *OREOCHROMIS SPILURUS* IN SEAWATER AND BRACKISH GROUNDWATER. *Aquaculture* 73(1-4):323-332. 1988. FR 34(1)
[Kuwait Inst. Sci. Res., Maricult. & Fish. Dep., P.O. Box 1638, 22017 Salmiya, Kuwait]

89-000045 Al-Ahmad, Thani A.; Mohammed Ridha and Abdulkader A. Al-Ahmed. PRODUCTION AND FEED RATION OF THE TILAPIA *OREOCHROMIS SPILURUS* IN SEAWATER. *Aquaculture* 73(1-4):111-118. 1988. FR 34(1)
[Kuwait Inst. Sci. Res., Maricult. & Fish. Dep., P.O. Box 1638, 22017 Salmiya, Kuwait]

89-000046 Aleem, S. O. AN ASSESSMENT OF TOBACCO WASTE FOR CONTROL OF THE GASTROPOD *TYMPANOTONUS FUSCATUS* (LINNAEUS) IN BRACKISHWATER FISH PONDS. *Aquaculture* 73(1-4):19-25. 1988. FR 34(1)
[African Regional Aquacult. Cent./Nigerian Inst. Oceanogr. & Mar. Res., P.M.B. 5122, Port Harcourt, Nigeria]

89-000047 Andreoli, Carlo and Claudio Tolomio. [DENSITY AND BIOMASS OF PHYTOPLANKTON AND PICOPLANKTON FROM FERTILIZED FISH PONDS OF "VALLE FOSSE" AND "VALLE ZAPPA" (VENICE LAGOON-NORTH ITALY).] *Arch. Hydrobiol. Suppl.* 78(4):505-528. 1988. In French with English summ. FR 34(1)
[Univ. Padova, Dip. Biol., Via Trieste, 75, I-35121 Padova, Italy]

89-000048 Aragon, Corazon T.; Juvilyn Cosico and Nerissa Salayo. TILAPIA MARKETING IN LAGUNA PROVINCE, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 206-218. 1985. FR 34(1)

WARMWATER CULTURE (CONTINUED)

89-000048 CONTINUED
[Coll. Dev. Econ. & Manage., Univ. Philippines Los Banos, Laguna, Philippines] *Oreochromis* spp.

89-000049 Aragon, Corazon T.; Miguelito M. de Lim and Gerardo L. Tioseco. ECONOMICS OF TILAPIA CAGE CULTURE IN LAGUNA PROVINCE, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 66-82. 1985. FR 34(1)
[Coll. Dev. Econ. & Manage., Univ. Philippines Los Banos, Laguna, Philippines] *Oreochromis* spp.

89-000050 Arumugam, Phillip T. IMPORTANCE OF INITIAL LABORATORY FEEDING FOR GOLDEN PERCH FRY. *Proc. Asian Fish. Forum* 1:529-531. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor, Malaysia] *Macquaria ambigua.*

89-000051 Basiao, Zubaida and Antonio San Antonio. GROWTH AND SURVIVAL OF NILE TILAPIA FINGERLINGS IN NET CAGES WITHOUT SUPPLEMENTAL FEED IN LAGUNA LAKE, PHILIPPINES. *Proc. Asian Fish. Forum* 1:533-538. 1986. FR 34(1)
[SEAFDEC, Binangonan Res. Stn., Binangonan, Rizal 3106, Philippines] *Tilapia nilotica.*

89-000052 Bautista, Antonio Ma.; Manuel H. Carlos and Antonio I. San Antonio. HATCHERY PRODUCTION OF *OREOCHROMIS NILOTICUS* L. AT DIFFERENT SEX RATIOS AND STOCKING DENSITIES. *Aquaculture* 73(1-4):85-95. 1988. FR 34(1)
[Binangonan Freshwater Stn., Aquacult. Dep., Southeast Asian Fish. Dev. Cent., Binangonan, Rizal 1903, Philippines]

89-000053 Becker, K. and Lev Fishelson. STANDARD AND ROUTINE METABOLIC RATE, CRITICAL OXYGEN TENSION AND SPONTANEOUS SCOPE FOR ACTIVITY OF TILAPIAS. *Proc. Asian Fish. Forum* 1:623-628. 1986. FR 34(1)
[Inst. Anim. Prod., Univ. Hohenheim, D-7000 Stuttgart 70, West Germany]

89-000054 Broussard, Meryl C., Jr. and Cecilia G. Reyes. COST ANALYSIS OF A LARGE-SCALE HATCHERY FOR THE PRODUCTION OF *OREOCHROMIS NILOTICUS* FINGERLINGS IN CENTRAL LUZON, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 33-43. 1985. FR 34(1)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843]

89-000055 Chiba, Kenji. THE CYCLE OF NITROGEN, CARBON AND PHOSPHORUS IN AN EEL CULTURE POND. *Proc. Asian Fish. Forum* 1:31-34. 1986. FR 34(1)
[Fish. Lab., Fac. Agric., Univ. Tokyo, Maisaka, Shizuoka, Japan] *Anguilla japonica.*

89-000056 Chien, Yew-Hu; Chin-Yu Lee; Chun-Tsu Yao and Hong-Tsu Lai. THE USE OF STEEL SLAGS AS SUBSTRATES IN TILAPIA (*OREOCHROMIS NILOTICUS*) REARING. *Proc. Asian Fish. Forum* 1:35-38. 1986. FR 34(1)
[Dep. Aquacult., Natl. Taiwan Coll. Mar. Sci. & Technol., Keelung, Taiwan]

89-000057 Chiu, Yvonne N.; Arsenio S. Camacho and Mary Agnes S. Sastrillo. EFFECT OF AMINO ACID SUPPLEMENTATION AND VITAMIN LEVEL ON THE GROWTH AND SURVIVAL OF MILKFISH (*CHANOS CHANOS*) FRY. *Proc. Asian Fish. Forum*

WARMWATER CULTURE (CONTINUED)

89-000057 CONTINUED 1:543-546. 1986. FR 34(1)
[Brackishwater Aquacult. Cent., Univ. Philippines, Leganes, Iloilo, Philippines]

89-000058 Chiu, Yvonne N.; Ma. Paz Macahilig and Mary Agnes S. Sastrillo. PRELIMINARY STUDIES OF FACTORS AFFECTING THE FEEDING RHYTHM OF MILKFISH (*CHANOS CHANOS* FORSKAL). *Proc. Asian Fish. Forum* 1:547-550. 1986. FR 34(1)
[Brackishwater Aquacult. Cent., Coll. Fish., Univ. Philippines, Leganes, Iloilo, Philippines]

89-000059 Conrad, Jim. A CARP FARM IN NORTHERN GERMANY. *Aquacult. Mag.* 14(6):30-32, 34. 1988. FR 34(1)
Cyprinus carpio.

89-000060 Corre, Valeriano L., Jr. STATUS, POTENTIAL AND NEEDS OF TILAPIA CULTURE IN PANAY ISLAND, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 165-173. 1985. FR 34(1)
[Univ. Philippines Visayas, Coll. Fish., Leganes, Iloilo, Philippines] *Oreochromis niloticus* and *O. mossambicus.*

89-000061 de Silva, Sena S.; Rasanthi M. Gunasekera and Chitra Keembiyahetty. OPTIMUM RATION AND FEEDING FREQUENCY IN *OREOCHROMIS NILOTICUS* YOUNG. *Proc. Asian Fish. Forum* 1:559-564. 1986. FR 34(1)
[Dep. Zool., Univ. Ruhuna, Matara, Sri Lanka]

89-000062 Dinesh, K. R.; T. J. Varghese and M. C. Nandeesha. EFFECTS OF A COMBINATION OF POULTRY MANURE AND VARYING DOSES OF UREA ON THE GROWTH AND SURVIVAL OF CULTURED CARPS. *Proc. Asian Fish. Forum* 1:565-568. 1986. FR 34(1)
[Univ. Agric. Sci., Coll. Fish., Mangalore 575 002, India] *Catla catla, Labeo rohita, Hypophthalmichtys molitrix,* and *Cyprinus carpio.*

89-000063 Escover, Emma M. and Rodrigo L. Claveria. THE ECONOMICS OF TILAPIA CAGE CULTURE IN BICOL FRESHWATER LAKES, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 50-65. 1985. FR 34(1)
[ICLARM MC P.O. Box 1501, Makati, Metro Manila, Philippines] *Oreochromis* spp.

89-000064 Escover, Emma M.; Orestes T. Salon and Cristina P. Lim. TILAPIA MARKETING IN BICOL, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 192-205. 1985. FR 34(1)
[ICLARM, MC P.O. Box 1501, Makati, Metro Manila, Philippines] *Oreochromis* spp.

89-000065 Fagbenro, Oyedapo A. EVALUATION OF DEFATTED COCOA CAKE AS A DIRECT FEED IN THE MONOSEX CULTURE OF *TILAPIA GUINEENSIS* (PISCES: CICHLIDAE). *Aquaculture* 73(1-4):201-206. 1988. FR 34(1)
[Dep. Fish. & Wildl., Fed. Univ. Technol., P.M.B. 704, Akure, Nigeria]

89-000066 Fang, Yingxue; Xianzhen Guo; Jikun Wang; Xiuzheng Fang and Liu Zhiyun. EFFECTS OF DIFFERENT ANIMAL MANURES ON FISH FARMING. *Proc. Asian Fish. Forum* 1:117-120. 1986. FR 34(1)
[Freshwater Fish. Res. Cent., Chinese Acad Fish. Sci., Wuxi, Jiangsu, China] *Carassius cuvieri, Hypophthalmichthyes molitrix, Aristichthys nobilis, and Cyprinus carpio.*

WARMWATER CULTURE (CONTINUED)

89-000067 Fermin, Frank. THE INTRODUCTION OF INTEGRATED BACKYARD FISHPONDS IN LOWLAND CAVITE, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 151-164. 1985. FR 34(1)
[Int. Inst. Rural Reconstruct., Silang, Cavite, Philippines] *Oreochromis mossambicus.*

89-000068 Fitzgerald, William J., Jr. COMPARATIVE ECONOMICS OF FOUR AQUACULTURE SPECIES UNDER MONOCULTURE AND POLYCULTURE PRODUCTION IN GUAM. *J. World Aquacult. Soc.* 19(3):132-142. 1988. FR 34(1)
[Dep. Commerce, Govt. Guam, GITC Bldg., 590 S. Marine Dr., Tamuning, Guam 96911] *Tilapia mossambica, T. nilotica, Clarias batrachus,* and *Chanos chanos.*

89-000069 Fortes, Romeo D.; Valeriano L. Corre, Jr. and Emelyn Pudadera. EFFECTS OF FERTILIZERS AND FEEDS AS NUTRIENT SOURCES ON *OREOCHROMIS NILOTICUS* PRODUCTION IN PHILIPPINE BRACKISHWATER PONDS. *Proc. Asian Fish. Forum* 1:121-124. 1986. FR 34(1)
[Brackishwater Aquacult. Cent., Coll. Fish., Univ. Philippines, Leganes Iloilo, Philippines]

89-000070 Gatlin, Delbert M. III and Harold F. Phillips. EFFECTS OF DIET FORM ON GOLDEN SHINER *NOTEMIGONUS CRYSOLEUCAS* PERFORMANCE. *J. World Aquacult. Soc.* 19(2):47-50. 1988. FR 34(1)
[Dep. Agric., Univ. Arkansas, Pine Bluff, 71601]

89-000071 Gonzales, Leonardo A. PHILIPPINE TILAPIA MARKETING IN THE CONTEXT OF STRUCTURAL DEMAND FOR PROTEIN: A COMMENT. *ICLARM Conf. Proc.* No. 12. p. 232-237. 1985. FR 34(1)
[Int. Rice Res. Inst., Los Banos, Laguna, Philippines] *Oreochromis* spp.

89-000072 Guerrero, Rafael D. III. TILAPIA FARMING IN THE PHILIPPINES: PRACTICES, PROBLEMS AND PROSPECTS. *ICLARM Conf. Proc.* No. 12. p. 3-14. 1985. FR 34(1)
Oreochromis mossambicus.

89-000073 Guerrero, Rafael D. III. PRODUCTION OF NILE TILAPIA FRY AND FINGERLINGS IN EARTHEN PONDS AT PILA, LAGUNA, PHILIPPINES. *Proc. Asian Fish. Forum* 1:49-52. 1986. FR 34(1)
[Inland Resour. Dev. Corp., Intramuros, Manila, Philippines] *Tilapia nilotica.*

89-000074 Guo, Xianzhen; Fang Yingxue; Wang Jikun; Fang Xiuzheng and Liu Zhiyun. A PRELIMINARY STUDY ON SOURCES OF FISH GROWTH IN MANURED PONDS USING DELTA C ANALYSIS. *Proc. Asian Fish. Forum* 1:125-128. 1986. FR 34(1)
[Freshwater Fish. Res. Cent., Chinese Acad. Fish. Sci., Wuxi, Jiangsu, China] *Carassius cuvieri, Hypophthalmichthys molitrix, Aristichthys nobilis,* and *Cyprinus carpio.*

89-000075 Kapur, K. and K. K. Lal. RELATIVE TOXICITY OF CERTAIN LIVESTOCK WASTES FOR FISH CULTURE. *Proc. Asian Fish. Forum* 1:133-136. 1986. FR 34(1)
[Lab. Fish Biol. & Endocrinol., Dep. Zool., Haryana Agric. Univ., Hisar, India 125004] *Cyprinus carpio.*

89-000076 Kolasa-Jaminska, Barbara. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 5. PHYSICAL AND CHEMICAL PROPERTIES OF WATER. *Acta Hydrobiol.* 29(3):325-337. 1987. In English with Polish summ.

WARMWATER CULTURE (CONTINUED)

89-000076 CONTINUED FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio.*

89-000077 Krzyzanek, Edward. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 8. NUMBER AND BIOMASS OF ZOOBENTHOS. *Acta Hydrobiol.* 29(3):371-382. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Inst. Freshwater Biol., Hydrobiol. Stn., 42-230 Goczalkowice, Poland] *Cyprinus carpio.*

89-000078 Lazaga, Jovenal F. and Leonardo L. Roa. FINANCIAL AND ECONOMIC ANALYSES OF GROW-OUT TILAPIA CAGE FARMING IN LAGUNA DE BAY, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 107-114. 1985. FR 34(1)
[SEAFDEC Aquacult. Dep., Ortigas Ave., Mandaluyong, Metro Manila, Philippines] *Oreochromis niloticus.*

89-000079 Lewkowicz, Maria. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PROUDUCTION. 7. SPECIES COMPOSITION AND ZOOPLANKTON DEVELOPMENT. *Acta Hydrobiol.* 29(3):355-369. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio.*

89-000080 Lewkowicz, Stanislaw. INVESTIGATIONS ON INTESTIFICATION OF CARP FINGERLING PRODUCTION. 6. PRIMARY PRODUCTION AND OXYGEN CONDITIONS. *Acta Hydrobiol.* 29(3):339-353. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio.*

89-000081 Lin, C. Kwei. ACIDIFICATION AND RECLAMATION OF ACID SULFATE SOIL FISHPONDS IN THAILAND. *Proc. Asian Fish. Forum* 1:71-74. 1986. FR 34(1)
[Great Lakes & Mar. Water Cent., Univ. Mich., Ann Arbor]

89-000082 Lopez, N. A.; Ma. V. E. Vicaldo; M. G. Trio and J. F. Fadriquela. THE PHILIPPINE NATIONAL BANGUS (*CHANOS CHANOS*) BREEDING PROGRAM. *Proc. Asian Fish. Forum* 1:75-78. 1986. FR 34(1)
[Bur. Fish. & Aquat. Resour. Marcelo Bldg., 880 Quezon Ave., Quezon City, Metro Manila, Philippines]

89-000083 Makeeva, A. P.; N. G. Emel'yanova and V. B. Verigin. QUALITY OF EGGS PRODUCED BY *HYPOPHTHALMICHTHYS MOLITRIX, ARISTICHTHYS NOBILIS,* AND *CTENOPHARYNGODON IDELLA* UNDER ARTIFICIAL CULTURE. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):48-61. 1988. FR 34(1)
[Biol. Fac., Moscow State Univ., Moscow, USSR]

89-000084 Manissery, Joseph K.; B. S. Narayana Gowda; K. M. Shankar and T. J. Varghese. GROWTH OF COMMON CARP (*CYPRINUS CARPIO* VAR. *COMMUNIS*) FED ON FEED INCORPORATED WITH *CASSIA TORA* LEAVES. *Indian J. Anim. Sci.* 58(6):737-740. 1988. FR 34(1)
[Coll. Fish., Univ. Alberta, Edmonton, AB, Canada T6G 2E9]

WARMWATER CULTURE (CONTINUED)

89-000085 Muthukumarana, G. and D. E. M. Weerakoon. STOCKING DENSITY AND DIET OF *OREOCHROMIS NILOTICUS* IN CAGES IN MANMADE LAKES IN SRI LANKA (II). *Proc. Asian Fish. Forum* 1:599-602. 1986. FR 34(1)
[Inland Fish. Dev. Div., Minist. Fish., Colombo, Sri Lanka]

89-000086 Nandeesha, M. C.; G. K. Srikanth; N. Basavaraja; P. Keshavanath; T. J. Varghese; Kubra Bano; A. K. Ray and Radha D. Kale. INFLUENCE OF EARTHWORM MEAL ON THE GROWTH AND FLESH QUALITY OF COMMON CARP. *Biol. Wastes* 26(3):189-198. 1988. FR 34(1)
[Coll. Fish., Univ. Agric. Sci., Mangalore-575 002, India] *Cyprinus carpio*.

89-000087 Oliva, Lydia P. ECONOMICS OF TILAPIA CAGE CULTURE IN MINDANAO, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 83-106. 1985. FR 34(1)
[South Mindanao Agric. Res. Cent., Univ. South. Mindanao, Kabacan, North Cotabato, Philippines] *Oreochromis* spp.

89-000088 Oliva, Lydia P. TILAPIA MARKETING IN MINDANAO, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 219-231. 1985. FR 34(1)
[South. Mindanao Agric. Res. Cent., Univ. South. Mindanao, Kabacan, North Cotabato, Philippines] *Oreochromis* spp.

89-000089 Pantastico, J. B.; S. F. Baldia and J. P. Baldia. EFFICIENCY OF SOME CYANOPHYTES AS LARVAL FEED FOR SILVER CARP (*HYPOPHTHALMICHTYS MOLITRIX*) AND THE CULTURE OF *SPIRULINA PLATENSIS*. *Proc. Asian Fish. Forum* 1:609-614. 1986. FR 34(1)
[SEAFDEC, Aquacult. Dep., P.O. Box 256, Iloilo City, Philippines]

89-000090 Perschbacher, Peter W. and Kirk Strawn. THE SHEEPSHEAD MINNOW *CYPRINODON VARIEGATUS* - A MAJOR PEST IN EXPERIMENTAL MARICULTURE OF THE GULF KILLIFISH *FUNDULUS GRANDIS*. *J. World Aquacult. Soc.* 19(3):113-117. 1988. FR 34(1)
[Strawn: Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843-2258]

89-000091 Pudadera, Beato J., Jr.; Kaylin C. Corre; Eliseo Coniza and Gisella Ann Taleon. INTEGRATED FARMING OF BROILER CHICKENS WITH FISH AND SHRIMP IN BRACKISHWATER PONDS. *Proc. Asian Fish. Forum* 1:141-144. 1986. FR 34(1)
[SEAFDEC, P.O. Box 256, Iloilo City , Philippines] *Tilapia nilotica* and *Chanos chanos*.

89-000092 Quines, O. D.; R. B. Vargas and V. M. Ibarra. FECAL COLIFORMS AS INDEX OF POLLUTION IN AN INTEGRATED PIG-FISH FARM SYSTEM. *Proc. Asian Fish. Forum* 1:145-147. 1986. FR 34(1)
[Coll. Vet. Sci. & Med., Cent. Luzon State Univ., Munoz, Nueva Ecija 2320, Philippines] *Tilapia nilotica*, *Cyprinus carpio*, and *Channa striata*.

89-000093 Sevilleja, Ruben C. TILAPIA PRODUCTION IN FRESHWATER FISHPONDS OF CENTRAL LUZON, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 115-126. 1985. FR 34(1)
[Freshwater Aquat. Cent., Cent. Luzon State Univ., Munoz, Nueva Ecija, Philippines] *Oreochromis* spp.

89-000094 Sharma, K. P. and Rajfish Rana. SEASONAL PONDS - A POTENTIAL SOURCE OF FISH SEED IN RAJASTHAN, INDIA. *Proc. Asian Fish. Forum* 1:87-88. 1986. FR 34(1)

WARMWATER CULTURE (CONTINUED)

89-000094 CONTINUED
[Tribal Areas Dev. Coop. Fed. Ltd., Pratapnagar, Udaipur, Rajasthan, India]

89-000095 Smith, Ian R.; Enriqueta B. Torres and Elvira O. Tan., editors. PHILIPPINE TILAPIA ECONOMICS. *ICLARM Conf. Proc.* No. 12. 261p. 1985. FR 34(1)
Selected papers indexed in this issue of *Fisheries Review*. *Oreochromis* spp.

89-000096 Sollows, John D. and Niran Tongpan. COMPARATIVE ECONOMICS OF RICE-FISH CULTURE AND RICE MONOCULTURE IN UBON PROVINCE, NORTHEAST THAILAND. *Proc. Asian Fish. Forum* 1:149-152. 1986. FR 34(1)
[Ubon Field Crops Res. Cent., P.O. Box 69, Ubonratchathani 34000, Thailand] *Cyprinus carpio*, *Tilapia nilotica*, and *Puntius gonionotus*.

89-000097 Subasinghe, R. P. and C. Sommerville. SCANNING ELECTRON MICROSCOPY STUDY OF THE CAUSES OF MORTALITY IN *OREOCHROMIS MOSSAMBICUS* (PETERS) EGGS UNDER ARTIFICIAL INCUBATION. *J. Fish Dis.* 11(5):409-416. 1988. FR 34(1)
[Dep. Zool., Univ. Colombo, P.O. Box 1490, Colombo 3, Sri Lanka]

89-000098 Subasinghe, Rohana P. and Christina Sommerville. POSSIBLE CAUSE OF MORTALITY OF *OREOCHROMIS MOSSAMBICUS* EGGS UNDER ARTIFICIAL INCUBATION. *Proc. Asian Fish. Forum* 1:337-340. 1986. FR 34(1)
[Dep. Zool., Univ. Colombo, P.O. Box 1490, Colombo 3, Sri Lanka]

89-000099 Szarowski, Lech. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 3. CHARACTERISTICS OF CARP FINGERLING NUTRITION. *Acta Hydrobiol.* 29(3):301-312. 1987. In English with Polish summ. FR 34(1)
[Inland Fish. Inst. Olsztyn, Exp. Fish Cult. Stn., 32-640 Zator, Poland] *Cyprinus carpio*.

89-000100 Szumiec, Jan. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 1. OPTIMIZATION OF REARING BIOTECHNIQUES. *Acta Hydrobiol.* 29(3):275-289. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio* and *Ctenopharyngodon idella*.

89-000101 Szumiec, Maria Anna. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 4. CLIMATIC AND METEOROLOGICAL CONDITIONS. *Acta Hydrobiol.* 29(3):313-323. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio*.

89-000102 Tagarino, Rogelio N. ECONOMICS OF RICE-FISH CULTURE SYSTEMS, LUZON, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 127-150. 1985. FR 34(1)
[Cent. Policy & Dev. Studies, Univ. Philippines Los Banos, Laguna, Philippines]

89-000103 Torres, Enriqueta B. and Emeline R. Navera. TILAPIA MARKETING IN CENTRAL LUZON AND METRO MANILA, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 180-191. 1985. FR 34(1)

WARMWATER CULTURE (CONTINUED)

89-000103 CONTINUED
[Coll. Dev. Econ. & Manage., Univ. Philippines Los Banos, Laguna, Philippines] *Oreochromis* spp.

89-000104 Wilson, R. P.; W. E. Poe; T. G. Nemetz and J. R. MacMillan. EFFECT OF RECOMBINANT BOVINE GROWTH HORMONE ADMINISTRATION ON GROWTH AND BODY COMPOSITION OF CHANNEL CATFISH. *Aquaculture* 73(1-4):229-236. 1988. FR 34(1)
[Dep. Biochem., Miss. State Univ., Mississippi State 39762] *Ictalurus punctatus.*

89-000105 Wrigley, T. J.; D. F. Toerien and I. G. Gaigher. FISH PRODUCTION IN SMALL OXIDATION PONDS. *Water Res.* 22(10):1279-1285. 1988. FR 34(1)
[Environ. Sci., School Biol. & Environ. Sci., Murdoch Univ., Murdoch 6150, W.A., Australia] *Tilapia mossambica, Clarias gariepinus, Cyprinus carpio, Hypophthalmichthys molitrix,* and *Labeo umbratus.*

89-000106 Wurts, William Aldis. AN EVALUATION OF SPECIFIC IONIC AND GROWTH PARAMETERS AFFECTING THE FEASIBILITY OF COMMERCIALLY PRODUCING RED DRUM (*SCIAENOPS OCELLATUS*). *Ph.D. dissertation, Tex. A&M Univ.* 102p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):962. 1988. Order No. DA8808819. FR 34(1)

89-000107 Yater, Luz R. and Ian R. Smith. ECONOMICS OF PRIVATE TILAPIA HATCHERIES IN LAGUNA AND RIZAL PROVINCES, PHILIPPINES. *ICLARM Conf. Proc.* No. 12. p. 15-32. 1985. FR 34(1)
[ICLARM, MC P.O. Box 1501, Makati, Manila, Philippines] *Oreochromis* spp.

MARICULTURE

89-000108 Alava, Veronica R. COMBINATIONS OF DIETARY FAT SOURCES IN DRY DIETS FOR *CHANOS CHANOS* FINGERLINGS. *Proc. Asian Fish. Forum* 1:519-521. 1986. FR 34(1)
[SEAFDEC, P.O. Box 256, Iloilo City, Philippines]

89-000109 Alvarez-Lajonchere, Luis; Juan Berdayes Arritola; Orlando Laiz Averhoff and Sonia Diaz Bellido. POSITIVE RESULTS OF INDUCED SPAWNING AND LARVAL REARING EXPERIMENTS WITH *MUGIL LIZA* VAL., A GREY MULLET FROM CUBAN WATERS. *Aquaculture* 73(1-4):349-355. 1988. FR 34(1)
[Empresa Nac. Acuicult., Carretera Cent. 20 1/2, Cotorro, Ciudad Habana, Cuba]

89-000110 Cataudella, S.; F. Massa; M. Rampacci and D. Crosetti. ARTIFICIAL REPRODUCTION AND LARVAL REARING OF THE THICK LIPPED MULLET (*CHELON LABROSUS*). *J. Appl. Ichthyol.* 4(3):130-139. 1988. In English with German and French summ. FR 34(1)
[Dip. Biol. Anim. Uomo, Univ. Roma "La Saprienza", Via Borelli 50, 00161 Rome, Italy]

89-000111 Higby, Mary and Alfred Beulig. EFFECTS OF STOCKING DENSITY AND FOOD QUANTITY ON GROWTH OF YOUNG SNOOK, *CENTROPOMUS UNDECIMALIS,* IN AQUARIA. *Fla. Sci.* 51(3/4):163-171. 1988. FR 34(1)
[Div. Nat. Sci., New Coll. U.S.F., Sarasota, FL 34243-2197]

MARICULTURE (CONTINUED)

89-000112 Juliano, Rogelio O. and Reijiro Hirano. THE GROWTH RATE OF MILKFISH, *CHANOS CHANOS* IN BRACKISHWATER PONDS IN THE PHILIPPINES. *Proc. Asian Fish. Forum* 1:63-66. 1986. FR 34(1)
[Brackishwater Aquacult. Cent. Coll. Fish., Univ. Philippines, Leganes, Iloilo, Philippines]

89-000113 Kim, Yong Sool. [DISSOLVED OXYGEN BUDGET IN FLOATING NET CAGE OF FISH FARM AT THE COASTAL AREA.] *Bull. Korean Fish. Soc.* 21(1):30-34. 1988. In Korean with English summ. FR 34(1)
[Dep. Aquacult., Tong-yeong Fish. Junior Coll., Chungmu 650-160, South Korea] *Seriola lalandei* in Korea.

89-000114 Kungvankij, Pinij and Niwat Suthemechaikul. MASS PRODUCTION OF SEABASS, *LATES CALCARIFER* (BLOCH), BY ENVIRONMENTAL MANIPULATION. *Proc. Asian Fish. Forum* 1:67-70. 1986. FR 34(1)
[Network Aquacult. Cent. Asia, P.O. Box 6204, Iloilo City, Philippines]

89-000115 Lee, Cheng-Sheng; Clyde S. Tamaru and Christopher D. Kelley. THE COST AND EFFECTIVENESS OF CPH, HCG AND LHRH-A ON THE INDUCED SPAWNING OF GREY MULLET, *MUGIL CEPHALUS*. *Aquaculture* 73(1-4):341-347. 1988. FR 34(1)
[Oceanic Inst., Makapuu Point, Waimanalo, HI 96795]

89-000116 Marte, Clarissa L.; Joebert Toledo; Gerald Quinitio and Antonio Castillo. COLLECTION OF NATURALLY-SPAWNED MILKFISH EGGS IN FLOATING CAGES. *Proc. Asian Fish. Forum* 1:671-674. 1986. FR 34(1)
[SEAFDEC, Aquacult. Dep., P.O. Box 256, Iloilo City, Philippines]

89-000117 Pauly, Daniel. CONCEPTS THAT WORK: SOME ADVANCES IN TROPICAL FISHERIES RESEARCH. *Proc. Asian Fish. Forum* 1:15-18. 1986. FR 34(1)
[ICLARM, P.O. Box 1501, Makati, Metro Manila, Philippines]

89-000118 Pryor, Warren W.; Daniel J. Morris and Lee G. Simmons. AN EVALUATION OF SUPPLEMENTING BACTERIAL FILTRATION WITH ALGAE SCRUBBERS IN A RECIRCULATING MARINE AQUARIUM. *Zoo Biol.* 7(3):281-288. 1988. FR 34(1)
[Fort Wayne Zoo, 3411 Sherman Blvd., Fort Wayne, IN 46808]

89-000119 Rosenthal, Harald; Donald Weston; Richard Gowen and Edward Black. REPORT OF THE *AD HOC* STUDY GROUP ON "ENVIRONMENTAL IMPACT OF MARICULTURE". *Int. Counc. Explor. Sea Coop. Res. Rep.* No. 154. 85p. 1988. FR 34(1)
[Biol. Anstalt Helgoland, Zent. Hamburg, Notkestr. 3, 2000 Hamburg 52, West Germany]

89-000120 Siriwardena, P. P. G. S. N. MILKFISH PEN CULTURE IN SRI LANKAN LAGOONS. *Proc. Asian Fish. Forum* 1:89-92. 1986. FR 34(1)
[Inland Fish., Minist. Fish., Colombo 10, Sri Lanka] *Chanos chanos*.

89-000121 Yu, Jian-Ping; Akinori Hino; Reijiro Hirano and Kazutsugu Hirayama. VITAMIN B_{12}-PRODUCING BACTERIA AS A NUTRITIVE COMPLEMENT FOR A CULTURE OF THE ROTIFER *BRACHIONUS PLICATILIS*. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1873-1880. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan]

FEEDS, FEEDING, AND NUTRITION

89-000122 Appelbaum, S. and P. Van Damme. THE FEASIBILITY OF USING EXCLUSIVELY ARTIFICIAL DRY FEED FOR THE REARING OF ISRAELI *CLARIAS GARIEPINUS* (BURCHELL, 1822) LARVAE AND FRY. *J. Appl. Ichthyol.* 4(3):105-110. 1988. In English with German and French summ. FR 34(1)
[Fish Lab., Jacob Blaustein Inst. Desert Res., Ben-Gurion Univ., Negev, Israel]

89-000123 Bhat, K. Ganapathi; H. P. C. Shetty and M. C. Nandeesha. FORMULATION AND EVALUATION OF PELLETED FISH FEED BASED ON SOYABEAN MEAL AND SQUILLA MEAL. *Proc. Asian Fish. Forum* 1:539-542. 1986. FR 34(1)
[Coll. Fish., Univ. Agric. Sci., Mangalore 575 002, India] *Labeo rohita, Cyprinus carpio,* and *Hypophthalmichtys molitrix.*

89-000124 Brown, Paul B.; D. Allen Davis and Ed H. Robinson. AN ESTIMATE OF THE DIETARY LYSINE REQUIREMENT OF JUVENILE RED DRUM *SCIAENOPS OCELLATUS. J. World Aquacult. Soc.* 19(3):109-112. 1988. FR 34(1)
[Nat. Hist. Surv., Sam A. Parr Fish. Res. Cent., R.R. 1, Box 174, Kinmundy, IL 62854]

89-000125 Davies, S. J. and H. Wareham. A PRELIMINARY EVALUATION OF AN INDUSTRIAL SINGLE CELL PROTEIN IN PRACTICAL DIETS FOR TILAPIA (*OREOCHROMIS MOSSAMBICUS* PETERS). *Aquaculture* 73(1-4):189-199. 1988. FR 34(1)
[Fish Feed Technol. Unit, Dep. Biol. Sci., Plymouth Polytech., Drake Circus, Plymouth, Devon PL4 8AA, England]

89-000126 El-Sayed, Abdel-Fattah M. and Donald L. Garling, Jr. CARBOHYDRATE-TO-LIPID RATIOS IN DIETS FOR *TILAPIA ZILLII* FINGERLINGS. *Aquaculture* 73(1-4):157-163. 1988. FR 34(1)
[Dep. Oceanogr., Fac. Sci., Alexandria Univ., Alexandria, Egypt]

89-000127 Gallagher, Margie Lee and Gad Degani. POULTRY MEAL AND POULTRY OIL AS SOURCES OF PROTEIN AND LIPID IN THE DIET OF EUROPEAN EELS (*ANGUILLA ANGUILLA*). *Aquaculture* 73(1-4):177-187. 1988. FR 34(1)
[Inst. Coastal & Mar. Resour., E. Carolina Univ., Greenville, NC 27858]

89-000128 Kaushik, Sadasivam J. and Emidio F. Gomes. EFFECT OF FREQUENCY OF FEEDING ON NITROGEN AND ENERGY BALANCE IN RAINBOW TROUT UNDER MAINTENANCE CONDITIONS. *Aquaculture* 73(1-4):207-216. 1988. FR 34(1)
[Lab. Nutr. Poissons, INRA, 64310 Saint Pee-sur-Nivelle, France] *Oncorhynchus mykiss.*

89-000129 Kim, Joung Won. GROWTH POTENTIAL OF YOUNG BLACK SEA BASS, *CENTROPRISTIS STRIATA,* IN ARTIFICIAL ENVIRONMENTS. *Ph.D. dissertation, Old Dominion Univ.* 220p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):977-978. 1988. Order No. DA8805583. FR 34(1)

89-000130 Mohanty, S. N. and D. N. Swamy. ENRICHED CONVENTIONAL FEED FOR INDIAN MAJOR CARPS. *Proc. Asian Fish. Forum* 1:597-598. 1986. FR 34(1)
[CIFRI, Kausalyagang, Via Bhubaneswar 751 002, Orissa, India]

89-000131 Nandeesha, M. C.; K. V. Devaraj and N. S. Sudhakara. GROWTH RESPONSE OF FOUR SPECIES OF CARPS TO DIFFERENT PROTEIN SOURCES IN PELLETED FEEDS. *Proc. Asian Fish. Forum* 1:603-608. 1986. FR 34(1)

FEEDS, FEEDING, AND NUTRITION (CONTINUED)

89-000131 CONTINUED
[Dep. Aquacult., Coll. Fish., Mangalore 575 002, India] *Catla catla*, *Labeo rohita*, *Cyprinus carpio*, and *Hypophthalmichtys molitrix*.

89-000132 Paniagua Michel, Jesus and Carlos Granados Machuca. SOLID FRACTION OF THE DIGESTION OF ORGANIC WASTE, A POTENTIAL FOOD FOR FISH AND CRUSTACEANS. *Cienc. Mar.* 13(4):69-80. 1987. In English and Spanish. FR 34(1)
[Cent. Invest. Cienc. Educ. Superior de Ensenada, Espinoza #843, Ensenada, BC, Mexico]

89-000133 Shearer, Karl D. DIETARY POTASSIUM REQUIREMENT OF JUVENILE CHINOOK SALMON. *Aquaculture* 73(1-4):119-129. 1988. FR 34(1)
[NMFS, NOAA, Northwest & Alaska Fish. Cent., Utilization Res. Div., 2725 Montlake Blvd. E., Seattle, WA 98112] *Oncorhynchus tshawytscha*.

89-000134 Stradmeyer, Lee; Neil B. Metcalfe and John E. Thorpe. EFFECT OF FOOD PELLET SHAPE AND TEXTURE ON THE FEEDING RESPONSE OF JUVENILE ATLANTIC SALMON. *Aquaculture* 73(1-4):217-228. 1988. FR 34(1)
[Freshwater Fish. Lab., Pitlochry, Perthshire PH16 5LB, Scotland] *Salmo salar*.

AQUARIUMS

89-000135 Annunziata, Rich. SELECTION, PURCHASE, AND CARE OF DISCUS. *Trop. Fish Hobbyist* 37(5):38-40, 43-44, 46. 1989. FR 34(1)
Cichlasoma spp.

89-000136 Edmonds, Les. AQUARIUM ODDITIES - THE WOLFFISHES. *Trop. Fish Hobbyist* 37(5):90, 92-94. 1989. FR 34(1)

89-000137 Gargas, Joe. TRICKLING-BED NITRIFICATION IN A DISCUS HATCHERY. *Trop. Fish Hobbyist* 37(3):99,102,105-106. 1988. FR 34(1)
Cichlasoma sp.

89-000138 Henningsen, Alan D. AN INTRODUCTION TO BREEDING CLOWNFISHES. *Trop. Fish Hobbyist* 37(5):97-99. 1989. FR 34(1)
Amphiprion spp. and *Premnas* spp.

89-000139 Iwasaki, Noboru. IMPORTED GUPPY VARIETIES. *Trop. Fish Hobbyist* 37(5):61-65, 68-71. 1989. FR 34(1)
Poecilia reticulata.

89-000140 Richter, Hans-Joachim. A NEGLECTED BEAUTY - *CHILATHERINA SENTANIENSIS*. *Trop. Fish Hobbyist* 37(5):32-37. 1989. FR 34(1)

89-000141 Stratton, Richard F. THE ACHILLES TANG. *Trop. Fish Hobbyist* 37(5):82-84. 1989. FR 34(1)
Acanthurus achilles.

MISCELLANEOUS CULTURE TECHNIQUES AND EQUIPMENT

89-000142 Engle, Carole R. and Upton Hatch. ECONOMIC ASSESSMENT OF ALTERNATIVE AQUACULTURE AERATION STRATEGIES. *J. World Aquacult. Soc.* 19(3):85-96. 1988. FR 34(1)
[Dep. Agric., Univ. Arkansas, Pine Bluff 71601]

89-000143 Nielsen, Larry A. and Donald J. Orth. THE HELLGRAMMITE-CRAYFISH BAIT FISHERY OF THE NEW RIVER AND ITS TRIBUTARIES, WEST VIRGINIA. *N. Am. J. Fish. Manage.* 8(3):317-324. 1988. FR 34(1)
[Dep. Fish. & Wildl. Sci., Va. Polytech. Inst. & State Univ., Blacksburg 24061]

ENVIRONMENTAL ISSUES, GENERAL AND MISC.

89-000144 Krise, William F. EFFECTS OF GAS SUPERSATURATION ON LAKE TROUT. *Int. Assoc. Great Lakes Res. Conf.* 31:A-30. 1988. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., R.D. #4, Box 63, Wellsboro, PA 16901] *Salvelinus namaycush.*

GENERAL LIMNOLOGY AND OCEANOGRAPHY

89-000145 Bary, B. McK. "IRELAND'S OCEANOGRAPHY - A HELP OR A HINDRANCE FOR FISH FARMING." *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 94-126. 1986. FR 34(1)
[Dep. Oceanogr., University Coll., Galway, Ireland]

89-000146 Spencer, Craig N. AN INEXPENSIVE, DEEP-WATER LIMNOCORRAL THAT COMPENSATES FOR WAVE ACTION. *Freshwater Biol.* 20(2):273-278. 1988. FR 34(1)
[Flathead Biol. Stn., Univ. Mont., Polson 59860]

PHYSICAL LIMNOLOGY AND OCEANOGRAPHY

89-000147 Bhowmik, Nani G. THE NEED FOR A SYSTEMATIC LAKE SEDIMENTATION SURVEY PROGRAM IN ILLINOIS. *Trans. Ill. State Acad. Sci.* 81(1-2):79-86. 1988. FR 34(1)
[Surface Water Sect., State Water Surv., Champaign, IL 61820]

CHEMICAL LIMNOLOGY AND OCEANOGRAPHY

89-000148 Saad, M. A. H. and M. M. Kandeel. OCEANOGRAPHIC INVESTIGATIONS ON THE RED SEA WATERS IN FRONT OF AL-GHARDAQA. II. NUTRIENTS. *Vie Milieu* 38(1):59-66. 1988. In English with French summ. FR 34(1)
[Oceanogr. Dep., Fac. Sci., Alexandria Univ., Moharem Bey, Alexandria, Egypt]

MORPHOLOGY

89-000149 Baker, Claude D. A PIGMENTED NORTHERN BLINDFISH, *AMBLYOPSIS SPELAEA*, AND NOTES ON PIGMENTATION IN AMBLYOPSID CAVEFISHES. *Proc. Indiana Acad. Sci.* 96:503. 1987. Abstract only. FR 34(1)
[Indiana Univ. Southeast, New Albany 47150]

89-000150 Baumgartner, Jeffrey V.; Michael A. Bell and Philip H. Weinberg. BODY FORM DIFFERENCES BETWEEN THE ENOS LAKE SPECIES PAIR OF THREESPINE STICKLEBACKS (*GASTEROSTEUS ACULEATUS* COMPLEX). *Can. J. Zool.* 66(2):467-474. 1988. In English with French summ. FR 34(1)
[West Coast Regional Water Supply Authority, 2535 Landmark Dr., Suite 211, Clearwater, FL 33519]

89-000151 Beveridge, M. C. M.; M. R. P. Briggs; M. E. Northcott and L. G. Ross. THE OCCURRENCE, STRUCTURE, AND DEVELOPMENT OF MICROBRANCHIOSPINES AMONG THE TILAPIAS (CICHLIDAE: TILAPIINI). *Can. J. Zool.* 66(11):2564-2572. 1988. In English with French summ. FR 34(1)
[Inst. Aquacult., Univ. Stirling, Stirling, FK9 4LA, Scotland]

89-000152 Caruso, J. H.; R. D. Suttkus and G. E. Gunning. ABNORMAL EXPRESSION OF SECONDARY SEX CHARACTERS IN A POPULATION OF *ANGUILLA ROSTRATA* (PISCES: ANGUILLIDAE) FROM A DARK COLORED FLORIDA STREAM. *Copeia* 1988(4):1077-1079. 1988. FR 34(1)
[Tulane Univ., Mus. Nat. Hist., Belle Chasse, LA 70037]

89-000153 Chiba, A.; M. Torroba; Y. Honma and A. G. Zapata. OCCURRENCE OF LYMPHOHAEMOPOIETIC TISSUE IN THE MENINGES OF THE STRINGRAY *DASYATIS AKAJEI* (ELASMOBRANCHII, CHONDRICTHYES). *Am. J. Anat.* 183(3):268-276. 1988. FR 34(1)
[Zapata: Dep. Biol. Cel., Fac. Biol., 28040 Madrid, Spain]

89-000154 Claytor, Ross R. and Hugh R. MacCrimmon. MORPHOMETRIC AND MERISTIC VARIABILITY AMONG NORTH AMERICAN ATLANTIC SALMON *(SALMO SALAR). Can. J. Zool.* 66(2):310-317. 1988. In English with French summ. FR 34(1)
[Sci. Branch, Dep. Fish. & Oceans, P.O. Box 5030, Moncton, NB, Canada E1C 9B6]

89-000155 Connes, R.; M. Granie-Prie; J. P. Diaz and J. Paris. [ULTRASTRUCTURE OF THE TASTE BUDS OF *DICENTRARCHUS LABRAX*.] *Can. J. Zool.* 66(10):2133-2142. 1988. In French with English summ. FR 34(1)
[Lab. Biol. Anim., Univ. Sci. & Tech. Languedoc, 34060 Montpellier Cedex, France]

89-000156 da Cunha Chaves, Pfaulo de Tarso and Gelso Vazzoler. [BIOLOGICAL ASPECTS OF AMAZON FISHES. III. MICROSCOPIC ANATOMY OF THE ESOPHAGUS, STOMACH, AND PYLORIC CAECA OF *SEMAPROCHILODUS INSIGNIS*.] *Acta Amazonica* 14(3-4):343-353. 1984. In Portuguese with English summ. FR 34(1)

89-000157 de Silva, Celine D. and H. Thabrew. GILL DEVELOPMENT IN THE CICHLID *OREOCHROMIS NILOTICUS. Proc. Asian Fish. Forum* 1:169-172. 1986. FR 34(1)
[Dep. Zool., Univ. Ruhuna, Matara, Sri Lanka]

MORPHOLOGY (CONTINUED)

89-000158 Farrell, A. P.; A. M. Hammons; M. S. Graham and G. F. Tibbits. CARDIAC GROWTH IN RAINBOW TROUT, *SALMO GAIRDNERI*. *Can. J. Zool.* 66(11):2368-2373. 1988. In English with French summ. FR 34(1)
[Dep. Biol. Sci., Simon Fraser Univ., Burnaby, BC, Canada V5A 1S6]

89-000159 Fujioka, Yasuhiro and Shozo Fushiki. [DOWNSTREAM MIGRATION AND BODY SILVERING IN UNDERYEARLING BIWA SALMON *ONCORHYNCHUS RHODURUS*.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1889-1897. 1988. In Japanese with English summ. FR 34(1)
[Fish. Exp. Stn., Hassaka, Hikone, Shiga 522, Japan]

89-000160 Guoping, Huang and Yan Shaoyi. [ELECTRON MICROSCOPIC OBSERVATION ON ANNULATE LAMELLAE DURING OOGENESIS IN GOLDFISH (*CARASSIUS AURATUS*).] *Zool. Res.* 9(3):209-215. 1988. In Chinese with English summ. FR 34(1)
[Inst. Dev. Biol., Acad. Sinica, Beijing, China]

89-000161 Haro, Alexander J. and William H. Krueger. PIGMENTATION, SIZE, AND MIGRATION OF ELVERS (*ANGUILLA ROSTRATA* (LESUEUR)) IN A COASTAL RHODE ISLAND STREAM. *Can. J. Zool.* 66(11):2528-2533. 1988. In English with French summ. FR 34(1)
[Krueger: Dep. Zool., Univ. R.I., Kingston 02881]

89-000162 Johnson, G. David and Richard H. Rosenblatt. MECHANISMS OF LIGHT ORGAN OCCLUSION IN FLASHLIGHT FISHES, FAMILY ANOMALOPIDAE (TELEOSTEI: BERYCIFORMES), AND THE EVOLUTION OF THE GROUP. *Zool. J. Linn. Soc.* 94(1):65-96. 1988. FR 34(1)
[Div. Fishes, Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560] *Photoblepharon palpebratus*, *Anomalops katopteron*, *Kryptophanaron alfredi*, and *Phthanophaneron harveyi*.

89-000163 Junger, Heidi; Kurt Kotrschal and Alfred Goldschmid. [SITUS, RELATIVE LENGTH AND MUCOSAL SURFACE STRUCTURE OF THE GUT IN EUROPEAN CYPRINIDS.] *Osterreichs Fischerei* 41(5/6):102-111. 1988. In German with English summ. FR 34(1)
[Zool. Inst. Univ. Salzburg, Hellbrunnerstr. 34, A-5020 Salzburg, Austria]

89-000164 Kloas, Werner; Gabriele Flugge; Eberhard Fuchs and Hilmar Stolte. BINDING SITES FOR ATRIAL NATRIURETIC PEPTIDE IN THE KIDNEY AND AORTA OF THE HAGFISH (*MYXINE GLUTINOSA*). *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):685-688. 1988. FR 34(1)
[Fuchs: German Primate Cent., Kellnerweg 4, D-3400 Gottingen, West Germany]

89-000165 Kott, Edward; Claude B. Renaud and Vadim D. Vladykov. THE UROGENITAL PAPILLA IN THE HOLARCTIC LAMPREY (PETROMYZONTIDAE). *Environ. Biol. Fishes* 23(1-2):37-43. 1988. FR 34(1)
[Dep. Biol., Wilfrid Laurier Univ., Waterloo, ON, Canada N2L 3C5]

89-000166 Lanteigne, Jacqueline. IDENTIFICATION OF LAMPREY LARVAE OF THE GENUS *ICHTHYOMYZON* (PETROMYZONTIDAE). *Environ. Biol. Fishes* 23(1-2):55-63. 1988. FR 34(1)
[Ichthyol. Sect., Natl. Mus. Nat. Sci., Ottawa, ON, Canada K1A 0M8]

MORPHOLOGY (CONTINUED)

89-000167 Lopez, Nelson A. MORPHOHISTOLOGICAL STUDY OF THE EARLY DEVELOPMENT STAGES OF THE RED SEA BREAM, *PAGRUS MAJOR*. *Proc. Asian Fish. Forum* 1:179-184. 1986. FR 34(1)
[Bur. Fish. & Aquatic Resour. Marcelo Bldg., 880 Quezon Ave., Quezon City, Philippines]

89-000168 Mabee, Paula M. SUPRANEURAL AND PREDORSAL BONES IN FISHES: DEVELOPMENT AND HOMOLOGIES. *Copeia* 1988(4):827-838. 1988. FR 34(1)
[Div. Fishes, NHB WG-12, Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560]

89-000169 Maisse, G.; J. L. Bagliniere; G. Landry; F. Caron and A. Rouleau. [EXTERNAL FEATURES TO DETERMINE SEX IN *SALMO SALAR*.] *Can. J. Zool.* 66(10):2312-2315. 1988. In French with English summ. FR 34(1)
[Inst. Natl. Rech. Agron., Stn. Physiol. & Ecol. Poissons, 35042 Rennes Cedex, France]

89-000170 Mann, Stephen; Nicholas H. C. Sparks; Michael M. Walker and Joseph L. Kirschvink. ULTRASTRUCTURE, MORPHOLOGY AND ORGANIZATION OF BIOGENIC MAGNETITE FROM SOCKEYE SALMON, *ONCORHYNCHUS NERKA*: IMPLICATIONS FOR MAGNETORECEPTION. *J. Exp. Biol.* 140:35-49. 1988. FR 34(1)
[School Chem., Univ. Bath, Bath BA2 7AY, England]

89-000171 Marliave, Jeffrey B. VARIATION IN PIGMENT AND NAPE MORPHOLOGY OF LARVAL TIDEPOOL SCULPIN. *Am. Fish. Soc. Symp.* 5:80-88. 1988. FR 34(1)
[Vancouver Public Aquarium, P.O. Box 3232, Vancouver, BC, Canada V6B 3X8]
Oligocottus maculosus in Canada.

89-000172 McGowan, C. DIFFERENTIAL DEVELOPMENT OF THE ROSTRUM AND MANDIBLE OF THE SWORDFISH (*XIPHIAS GLADIUS*) DURING ONTOGENY AND ITS POSSIBLE FUNCTIONAL SIGNIFICANCE. *Can. J. Zool.* 66(2):496-503. 1988. In English with French summ. FR 34(1)
[Dep. Vertebr. Palaeontol., Royal Ontario Mus., Toronto, ON, Canada M5S 2C6]

89-000173 Metz, Charles B., editor. ABSTRACTS OF PAPERS PRESENTED AT THE GENERAL SCIENTIFIC MEETINGS OF THE MARINE BIOLOGICAL LABORATORY. AUGUST 22-24, 1988. *Biol. Bull. (Woods Hole)* 175(2):301-319. 1988. Available from the Biological Bulletin Laboratory, Woods Hole, MA 02543. FR 34(1)
Selected abstracts indexed in this issue of *Fisheries Review*.

89-000174 Munk, Ole and Jorgen Morup Jorgensen. PUTATIVELY LUMINOUS TISSUE IN THE ABDOMINAL POUCH OF A MALE DALATIINE SHARK, *EUPROTOMICROIDES ZANTEDESCHIA* HULLEY & PENRITH, 1966. *Acta Zool. (Stockh.)* 69(4):247-251. 1988. FR 34(1)
[Inst. Cell Biol. & Anat., Zool. Inst., Univ. Copenhagen, Copenhagen, Denmark]

89-000175 Neira, F. J.; Lynnath E. Beckley and A. K. Whitfield. LARVAL DEVELOPMENT OF THE CAPE SILVERSIDE, *ATHERINA BREVICEPS* CUV. & VAL., 1835 (TELEOSTEI, ATHERINIDAE) FROM SOUTHERN AFRICA. *S. Afr. J. Zool.* 23(3):176-183. 1988. In English with Africaans summ. FR 34(1)
[School Biol. & Environ. Sci., Murdoch Univ., W.A. 6150, Australia]

MORPHOLOGY (CONTINUED)

89-000176 Ogawa, Mizuho and Mitsuo Fukuchi. COMPARATIVE STUDIES ON THE KIDNEYS AND URINARY BLADDERS OF ANTARCTIC TELEOSTS. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1919-1922. 1988. In English. FR 34(1)
[Grad. School Policy Sci., Saitama Univ., Urawa, Saitama 338, Japan] *Trematomus hansoni, T. bernacchii, Pagothenia borchgrevinki,* and *Austrolycichthys brachycephalus.*

89-000177 Pisam, M.; P. Prunet; G. Boeuf and A. Rambourg. ULTRASTRUCTURAL FEATURES OF CHLORIDE CELLS IN THE GILL EPITHELIUM OF THE ATLANTIC SALMON, *SALMO SALAR,* AND THEIR MODIFICATIONS DURING SMOLTIFICATION. *Am J. Anat.* 183(3):235-244. 1988. FR 34(1)
[Dep. Biol., CEN Saclay, 91191 Gif-sur-Yvette, Cedex, France]

89-000178 Puzdrowski, R. L. AFFERENT PROJECTIONS OF THE TRIGEMINAL NERVE IN THE GOLDFISH, *CARASSIUS AURATUS. J. Morphol.* 198(2):131-147. 1988. FR 34(1)
[Dep. Biol., Univ. Mich., Ann Arbor 48109]

89-000179 Rafferty, Nancy; Kris Lowe; Keen Rafferty and Seymour Zigman. INITIAL STUDIES OF MARINE VERTEBRATE LENS CYTOSKELETON. *Biol. Bull. (Woods Hole)* 175(2):302. 1988. Abstract only. FR 34(1)

89-000180 Ramaiyan, V. and R. Sivakumar. AN ABNORMAL STING-RAY CAUGHT OFF PARANGIPETTAI ON THE SOUTH-EASTERN COAST OF INDIA. *J. Fish Biol.* 33(4):659-660. 1988. FR 34(1)
[Cent. Advanced Study Mar. Biol., Annamalai Univ., Parangipettai 608502, Tamil Nadu, India] *Dasyatis jenkinsii.*

89-000181 Rodriguez-Moldes, M. Isabel and Ramon Anadon. ULTRASTRUCTURAL STUDY OF THE EVOLUTION OF GLOBULES IN CORONET CELLS OF THE SACCUS VASCULOSUS OF AN ELASMOBRANCH (*SCYLIORHINUS CANICULA* L.), WITH SOME OBSERVATIONS ON CEREBROSPINAL FLUID-CONTACTING NEURONS. *Acta Zool. (Stockh.)* 69(4):217-224. 1988. FR 34(1)
[Dep. Biol. Fundamental, Fac. Biol., Univ. Santiago Compostela, Compostela, Spain]

89-000182 Saint-Paul, U. and G. Bernardinho. BEHAVIOURAL AND ECOMORPHOLOGICAL RESPONSES OF THE NEOTROPICAL PACU *PIARACTUS MESOPOTAMICUS* (TELEOSTEI, SERRASALMIDAE) TO OXYGEN-DEFICIENT WATERS. *Exp. Biol. (Berlin)* 48(1):19-26. 1988. FR 34(1)
[Inst. Hydrobiol. & Fischereiwissenschaft, Olbersweg 24, D-2000 Hamburg 50, West Germany]

89-000183 Schindler, Joachim F. and Uwe De Vries. OVARIAN STRUCTURAL SPECIALIZATIONS FACILITATE APLACENTAL MATROTROPHY IN *JENYNSIA LINEATA* (CYPRINODONTIFORMES, OSTEICHTHYES). *J. Morphol.* 198(3):331-339. 1988. FR 34(1)
[Inst. Anat., Univ. Regensburg, D-8400 Regensburg, West Germany]

89-000184 Simon, Thomas P. IDENTIFICATION OF EGGS, LARVAE, AND EARLY JUVENILES OF THE SLABROCK DARTER, *ETHEOSTOMA SMITHI,* FROM THE CUMBERLAND RIVER DRAINAGE, KENTUCKY. *Trans. Ky. Acad. Sci.* 49(1-2):15-20. 1988. FR 34(1)
[Large Rivers Larval Res. Stn., P.O. Box 727, Grayslake, IL 60030]

MORPHOLOGY (CONTINUED)

89-000185 Singh, O. N.; P. K. Roy and J. S. Datta Munshi. GILL DIMENSIONS OF AN INDIAN HILL-STREAM CYPRINID FISH, *BOTIA DARIO* (HAM.). *Arch. Biol.* 99(2):169-182. 1988. In English with French summ. FR 34(1)
[Bhagalpur Univ., Post-Graduate Dep. Zool., Bhagalpur 812007, India]

89-000186 Sprando, R. L. and L. D. Russell. SPERMIOGENESIS IN THE BLUEGILL (*LEPOMIS MACROCHIRUS*): A STUDY OF CYTOPLASMIC EVENTS INCLUDING CELL VOLUME CHANGES AND CYTOPLASMIC ELIMINATION. *J. Morphol.* 198(2):165-177. 1988. FR 34(1)
[Dep. Physiol., School Med., South. Ill. Univ., Carbondale 62901-6512]

89-000187 Srivastava, C. B. L.; S. Tripathi; K. N. Pandey and M. Singh. FISH CAROTID LABYRINTH - A TRANSFORMED PSEUDOBRANCH. *Arch. Biol.* 99(1):33-50. 1988. In English with French summ. FR 34(1)
[Dep. Zool., Univ. Allahabad, Allahabad 211 002, India] *Labeo rohita, Wallago attu, Tachysurus maculatus, Channa punctatus, Notopterus notopterus, Anabas testudineus,* and *Ompok pabda.*

89-000188 Suzuki, Shintaro and Isuzu Kawabata. A SCANNING ELECTRON MICROSCOPIC STUDY ON THE THYROID FOLLICLE OF THE HAGFISH *EPTATRETUS BURGERI*. *Acta Zool. (Stockh.)* 69(4):253-258. 1988. FR 34(1)
[Dep. Comp. Endocrinol., Inst. Endocrinol., Gunma Univ., Maebashi 371, Japan]

89-000189 Vasilyeva, E. D. and A. P. Makeyeva. [MORPHOLOGICAL FEATURES AND TAXONOMY OF ELEOTRIDAE (PISCES) FROM THE FAUNA OF THE USSR.] *Zool. Zh.* 67(8):1194-1204. 1988. In Russian with English summ. FR 34(1)
[Zool. Mus. & Biol. Fac., Moscow State Univ., Moscow, USSR]

89-000190 Wongratana, Thosaporn. A CASE OF TOTAL ALBINISM IN *SYNAPTURA PANOIDES* BLEEKER (PISCES: TELEOSTEI: SOLEIDAE) FROM THE CHAO PHRAYA RIVER, THAILAND. *Nat. Hist. Bull. Siam Soc.* 36(1):55-60. 1988. FR 34(1)
[Univ. Mus. Zool., Dep. Biol., Fac. Sci., Chulalongkorn Univ., Bangkok 10500, Thailand]

89-000191 Yano, Kazunari and Sho Tanaka. REPRODUCTIVE ORGANS OF DEEP SEA SHARKS, *CENTROSCYMNUS OWSTONI* AND *C. COELOLEPIS*. *J. Fac. Mar. Sci. Technol. Tokai Univ.* No. 25. p. 57-67. 1987. In English with Japanese summ. FR 34(1)

89-000192 Zakaria-Ismail, Mohd. MORPHOMETRIC ANALYSES OF THE CYPRINID FISH GENUS *PUNTIOPLITES* IN PENINSULAR MALAYSIA. *Malay. Nat. J.* 42(1):21-28. 1988. FR 34(1)
[Dep. Zool., Univ. Malaya, Pantai Valley, 59100 Kuala Lumpur, Malaysia] *P. proctozysron* and *P. bulu.*

89-000193 Zottoli, Steven J.; Graeme W. Davis and Susan C. Northen. SOME MORPHOLOGICAL AND PHYSIOLOGICAL PROPERTIES OF THE SEA ROBIN MAUTHNER CELL. *Biol. Bull. (Woods Hole)* 175(2):309-310. 1988. Abstract only. FR 34(1)
Pomatomus carolinus.

PHYSIOLOGY

89-000194 Abidin, Aizam Zainal. ASPECTS OF THE BIOLOGY OF A TROPICAL CYPRINID, *HAMPALA MACROLEPIDOTA* (VAN HASSELT), WITH REFERENCE TO FOOD, FEEDING HABITS AND REPRODUCTION. *Proc. Asian Fish. Forum* 1:515-518. FEEDING HABITS AND REPRODUCTION. *Proc. Asian Fish. Forum* 1:515-518.

PHYSIOLOGY (CONTINUED)

89-000194 CONTINUED 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, 43400 UPM Serdang Malaysia]

89-000195 Adachi, Shinji; Kazuomi Ouchi; Keiji Hirose; and Yoshitaka Nagahama. INDUCTION OF OOCYTE MATURATION *IN VITRO* BY STEROID HORMONES IN THE RED SEA BREAM *PAGRUS MAJOR*. *Nippon Suisan Gakkaishi* 54(9):1665. 1988. FR 34(1)
[Lab. Reprod. Biol., Natl. Inst. Basic Biol., Okazaki 444, Japan]

89-000196 Adams, Michael A.; John H. Teeter; Yair Katz and Peter B. Johnsen. SEX PHEROMONES OF THE SEA LAMPREY (*PETROMYZON MARINUS*): STEROID STUDIES. *J. Chem. Ecol.* 13(2):387-395. 1987. FR 34(1)
[Monell Chem. Senses Cent., Univ. Pa., 3500 Market St., Philadelphia 19104]

89-000197 Altringham, J. D. and I. A. Johnston. ACTIVATION OF MULTIPLY INNERVATED FAST AND SLOW MYOTOMAL MUSCLE FIBRES OF THE TELEOST *MYOXOCEPHALUS SCORPIUS*. *J. Exp. Biol.* 140:313-324. 1988. FR 34(1)
[Gatty Mar. Lab., Dep. Biol. & Preclinical Med., St. Andrews Univ., St. Andrews, Fife KY16 8LB, Scotland]

89-000198 Apostolopoulos, J. and S. Klaoudatos. EFFECT OF ACCLIMATIZATION AND DEGREE OF HUNGER ON THE SATIATION AMOUNT IN *SPARUS AURATUS*, AND SATIATION CURVE OF THE FISH. *Thalassographica* 9(2):69-78. 1986. In English with Greek summ. FR 34(1)
[Natl. Cent. Mar. Res., Hellinikon 16604, Greece]

89-000199 Bailey, K. M. and C. L. Stehr. THE EFFECTS OF FEEDING PERIODICITY AND RATION ON THE RATE OF INCREMENT FORMATION IN OTOLITHS OF LARVAL WALLEYE POLLOCK *THERAGRA CHALCOGRAMMA* (PALLAS). *J. Exp. Mar. Biol. Ecol.* 122(2):147-161. 1988. FR 34(1)
[Northwest & Alaska Fish. Cent., NMFS, 7600 Sand Point Way NE, Seattle, WA 98115]

89-000200 Baker, Harriet; Andrew Bass and Robert Baker. IMMUNOCYTOCHEMICAL CHARACTERIZATION OF THE SONIC MOTOR NUCLEUS OF THE TOADFISH, *OPSANUS TAU*. *Biol. Bull. (Woods Hole)* 175(2):313. 1988. Abstract only. FR 34(1)

89-000201 Baksi, Sandra M.; Nadia Libbus and John M. Frazier. INDUCTION OF METAL BINDING PROTEINS IN STRIPED BASS, *MORONE SAXATILIS*, FOLLOWING CADMIUM TREATMENT. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):355-363. 1988. FR 34(1)
[Johns Hopkins Univ., School Hyg. & Public Health, Baltimore, MD 21205]

89-000202 Barham, W. T.; H. J. Schoonbee; J. G. J. Visser and G. L. Smit. A COMPARISON OF RED-CELL FRAGILITIES OF ELECTRONARCOTIZED AND CHEMICALLY ANAESTHETIZED FRESHWATER BREAM, *OREOCHROMIS MOSSAMBICUS*. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):241-244. 1988. FR 34(1)
[Tilapia Res. Unit, Univ. Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa]

PHYSIOLOGY (CONTINUED)

89-000203 Barton, Michael and Kim Elkins. SIGNIFICANCE OF AQUATIC SURFACE RESPIRATION IN THE COMPARATIVE ADAPTATION OF TWO SPECIES OF FISHES (*NOTROPIS CHRYSOCEPHALUS* AND *FUNDULUS CATENATUS*) TO HEADWATER ENVIRONMENTS. *Trans. Ky. Acad. Sci.* 49(3-4):69-73. 1988. FR 34(1)
[Div. Sci. & Math., Centre Coll., Danville, KY 40422]

89-000204 Basaglia, F.; P. Ferioli; A. Santulli; V. D'Amelio and G. Salvatorelli. [DIFFERENTIATION OF SOME ENZYMATIC PATTERNS DURING DEVELOPMENT IN *SOLEA VULGARIS*.] *Rev. Suisse Zool.* 95(3):621-629. 1988. In French with English summ. FR 34(1)
[Inst. Anat. Comp., Univ. Ferrara, V. Luigi Borsari 46, 44100 Ferrara, Italy]

89-000205 Bass, Andrew and Robert Baker. NEUROPHYSIOLOGICAL CORRELATES OF SEX DIFFERENCES IN THE SONIC MOTOR SYSTEM OF THE MIDSHIPMAN, *PORICHTHYS NOTATUS*. *Biol. Bull. (Woods Hole)* 175(2):314. 1988. Abstract only. FR 34(1)

89-000206 Beacham, Terry D. and Clyde B. Murray. INFLUENCE OF PHOTOPERIOD AND TEMPERATURE ON TIMING OF SEXUAL MATURITY OF PINK SALMON (*ONCORHYNCHUS GORBUSCHA*). *Can. J. Zool.* 66(8):1729-1732. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Biol. Sci. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-000207 Beaver, Barbara J. and John H. Gee. ROLE OF WATER CURRENT AND RELATED VARIABLES IN DETERMINING BUOYANCY IN THE STICKLEBACKS *CULAEA INCONSTANS* AND *PUNGITIUS PUNGITIUS*. *Can. J. Zool.* 66(9):2006-2014. 1988. In English with French summ. FR 34(1)
[Dep. Zool., Univ. Manitoba, Winnipeg, MB, Canada R3T 2N2]

89-000208 Belokopytin, Yu. S. and G. A. Abolmasova. ENERGETICS OF METABOLISM OF FLYING-FISHES OF THE TROPICAL ATLANTIC AT VARIOUS RATES OF SWIMMING. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):148-151. 1988. FR 34(1)
[Inst. Biol. South. Oceans - InBYuM AN SSSR, Sevastopol, USSR]

89-000209 Berndtson, Amy K. and Frederick W. Goetz. PROTEOLYTIC ENZYMES IN BROOK TROUT AND GOLDFISH FOLLICLES DURING FINAL MATURATION AND OVULATION. *Proc. Indiana Acad. Sci.* 96:503. 1987. Abstract only. FR 34(1)
[Univ. Notre Dame, Notre Dame, IN 46556] *Carassius auratus* and *Salvelinus fontinalis*.

89-000210 Bjornsson, Bjorn Th.; Tsuyoshi Ogasawara; Tetsuya Hirano; Jonathan P. Bolton and Howard A. Bern. ELEVATED GROWTH HORMONE LEVELS IN STUNTED ATLANTIC SALMON, *SALMO SALAR*. *Aquaculture* 73(1-4):275-281. 1988. FR 34(1)
[Dep. Zool. & Cancer Res. Lab., Univ. Calif., Berkeley 94720]

89-000211 Bodznick, David and John Montgomery. SUPPRESSION OF COMMON MODE SIGNALS WITHIN THE ELECTROSENSORY SYSTEM OF THE LITTLE SKATE. *Biol. Bull. (Woods Hole)* 175(2):303. 1988. Abstract only. FR 34(1)
Raja erinacea.

PHYSIOLOGY (CONTINUED)

89-000212 Borg, Bertil; Jan Peute and Goran Paulson. SEASONAL CHANGES IN THE GONADOTROPIC CELLS OF THE MALE THREESPINE STICKLEBACK, *GASTEROSTEUS ACULEATUS* L. *Can. J. Zool.* 66(9):1961-1967. 1988. In English with French summ. FR 34(1)
[Dep. Zool., Univ. Stockholm, S-106 91 Stockholm, Sweden]

89-000213 Borgese, Thomas A.; John P. Harrington; Iraj Ganjian and Carlos Duran. HAEMOGLOBIN PROPERTIES AND POLYMERIZATION IN THE MARINE TELEOST *LOPHIUS AMERICANUS* (GOOSEFISH). *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):663-670. 1988. FR 34(1)
[Biol. Dep., Lehman Coll., CUNY, Bronx, NY 10468]

89-000214 Brown, Christopher L.; Serge I. Doroshov; Jose M. Nunez; Carl Hadley; Joel Vaneenennaam; Richard S. Nishioka and Howard A. Bern. MATERNAL TRIIODOTHYRONINE INJECTIONS CAUSE INCREASES IN SWIMBLADDER INFLATION AND SURVIVAL RATES IN LARVAL STRIPED BASS, *MORONE SAXATILIS*. *J. Exp. Zool.* 248(2):168-176. 1988. FR 34(1)
[Bern: Dep. Zool., Univ. Calif., Berkeley 94720]

89-000215 Brown, Lydia A.; J. A. Ainsworth; M. H. Beleau; J. Bentinck-Smith; Ruth Francis-Floyd; P. R. Waterstrat and J. Freund. THE EFFECTS OF TRICAINE METHANESULPHONATE, FLUNIXIN MEGLUMIDE AND METOMIDATE ON SERUM CORTISOL IN CHANNEL CATFISH (*ICTALURUS PUNCTATUS*; RAFINESQUE). *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):33-38. 1986. FR 34(1)
[Coll. Vet. Med., Miss. State Univ., Mississippi State 39762]

89-000216 Chakrabartty, Avijit; Choy L. Hew; Margaret Shears and Garth Fletcher. PRIMARY STRUCTURES OF THE ALANINE-RICH ANTIFREEZE POLYPEPTIDES FROM GRUBBY SCULPIN, *MYOXOCEPHALUS AENAEUS*. *Can. J. Zool.* 66(2):403-408. 1988. In English with French summ. FR 34(1)
[Res. Inst., Hospital Sick Children, Univ. Toronto, Toronto, ON, Canada M5G 1S8] *M. scorpius*.

89-000217 Chernyaev, Zh. A.; V. Yu. Artsatbanov; A. E. Mikulin and D. S. Valyushok. CYTOCHROME O IN THE EGGS OF WHITEFISHES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):110-113. 1988. FR 34(1)
[Inst. Evol. Morphol. & Anim. Ecol., Acad. Sci. USSR - IEMEZH, Moscow, USSR]

89-000218 Claiborne, James B. and David H. Evans. AMMONIA AND ACID-BASE BALANCE DURING HIGH AMMONIA EXPOSURE IN A MARINE TELEOST (*MYOXOCEPHALUS OCTODECIMSPINOSUS*). *J. Exp. Biol.* 140:89-105. 1988. FR 34(1)
[Mt. Desert Island Biol. Lab., Salsbury Cove, ME 04672]

89-000219 Coello, S. TIME OF DAY OF SPAWNING IN *SARDINOPS SAGAX* (JENYNS). *J. Fish Biol.* 33(4):655-656. 1988. FR 34(1)
[School Anim. Biol., Univ. Coll: North Wales, Bangor, Gwynedd LL57 2UW, Wales]

89-000220 Cole, Kathleen S. PREDICTING THE POTENTIAL FOR SEX-CHANGE ON THE BASIS OF OVARIAN STRUCTURE IN GOBIID FISHES. *Copeia* 1988(4):1082-1086. 1988. FR 34(1)
[Dep. Mar. Sci., Univ. Puerto Rico-RUM, P.O Box 5000, Mayaguez 00709]

89-000221 Colletti, A. E. and K. R. Olson. CATECHOLAMINE METABOLISM BY THE PERFUSED RAINBOW TROUT GILL. *J. Exp. Zool.* 248(2):177-184. 1988. FR 34(1)
[Olson: Cent. Med. Educ., Haggar Hall, Univ. Notre Dame, Notre Dame, IN 46556] *Salmo gairdneri*.

PHYSIOLOGY (CONTINUED)

89-000222 Conley, David M. and Jon Mallatt. HISTOCHEMICAL LOCALIZATION OF Na^+-K^+ ATPase AND CARBONIC ANHYDRASE ACTIVITY IN GILLS OF 17 FISH SPECIES. *Can. J. Zool.* 66(11):2398-2405. 1988. In English with French summ. FR 34(1)
[Mallatt: Dep. Zool., Wash. State Univ., Pullman 99164-4220]

89-000223 Conlon, J. Michael; Carolyn F. Deacon; Neil Hazon; Ian W. Henderson and Lars Thim. SOMATOSTATIN-RELATED AND GLUCAGON-RELATED PEPTIDES WITH UNUSUAL STRUCTURAL FEATURES FROM THE EUROPEAN EEL (*ANGUILLA ANGUILLA*). *Gen. Comp. Endocrinol.* 72(2):181-189. 1988. FR 34(1)
[Clin. Res. Group Gastrointestinal Endocrinol. Max-Planck-Gesellschaft, Univ. Gottingen, Gosslerstr. 10D, D-3400 Gottingen, West Germany]

89-000224 Cui, Y. and R. J. Wootton. BIOENERGETICS OF GROWTH OF A CYPRINID, *PHOXINUS PHOXINUS* (L.): THE EFFECT OF RATION AND TEMPERATURE ON GROWTH RATE AND EFFICIENCY. *J. Fish. Biol.* 33(5):763-773. 1988. FR 34(1)
[Wootton: Dep. Zool., University Coll. Wales, Aberystwyth, Dyfed, Wales]

89-000225 Curtin, N. A. and R. C. Woledge. POWER OUTPUT AND FORCE-VELOCITY RELATIONSHIP OF LIVE FIBRES FROM WHITE MYOTOMAL MUSCLE OF THE DOGFISH, *SCYLIORHINUS CANICULA*. *J. Exp. Biol.* 140:187-197. 1988. FR 34(1)
[Dep. Physiol., Charing Cross & Westminster Med. School, Fulham Palace Rd., London W6 8RF, England]

89-000226 Cyr, Daniel Gabriel. THE INTERRELATIONSHIP BETWEEN THYROID HORMONES AND OVARIAN SEX STEROIDS IN RAINBOW TROUT, *SALMO GAIRDNERI*. *Ph.D. dissertation, Univ. Manitoba* 1988. From Diss. Abstr. Int. B Sci. Eng. 49(4):1040. 1988. FR 34(1)

89-000227 da Cunha Bastos, V. L. F.; J. da Cunha Bastos Neto; R. L. de Mendonca and M. V. de Castro Faria. MAIN KINETIC CHARACTERISTICS OF ACETYLCHOLINESTERASE FROM BRAIN OF *HYPOSTOMUS PUNCTATUS*, A BRAZILIAN BENTONIC FISH (CASCUDO). *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):327-331. 1988. FR 34(1)
[Inst. Biol., Univ. Estado Rio de Janeiro, 20551 Rio de Janeiro, Brazil]

89-000228 Dellefors, C. and U. Faremo. EARLY SEXUAL MATURATION IN MALES OF WILD SEA TROUT, *SALMO TRUTTA* L., INHIBITS SMOLTIFICATION. *J. Fish. Biol.* 33(5):741-749. 1988. FR 34(1)
[Dep. Zool., Univ. Gothenberg, P.O. Box 25059, S-40031 Goteborg, Sweden]

89-000229 Dimberg, Kenth. INHIBITION OF CARBONIC ANHYDRASE *IN VIVO* IN THE FRESHWATER-ADAPTED RAINBOW TROUT: DIFFERENTIAL EFFECTS OF ACETAZOLAMIDE AND METAZOLAMIDE ON BLOOD CO_2 LEVELS. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):253-258. 1988. FR 34(1)
[Dep. Zoophysiol., Uppsala Univ., P.O. Box 560, S-751 22 Uppsala, Sweden] *Salmo gairdneri*.

89-000230 dos Santos, J. and M. Jobling. GASTRIC EMPTYING IN COD, *GADUS MORHUA* L.: EFFECTS OF FOOD PARTICLE SIZE AND DIETARY ENERGY CONTENT. *J. Fish Biol.* 33(4):511-516. 1988. FR 34(1)
[Jobling: Norges Fiskerihogskole, Univ. Tromso, Norway]

89-000231 Driedzic, William R. and Hans Gesser. DIFFERENCES IN FORCE-FREQUENCY RELATIONSHIPS AND CALCIUM DEPENDENCY BETWEEN ELASMOBRANCH AND TELEOST HEARTS. *J. Exp. Biol.* 140:227-241. 1988. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000231 CONTINUED
[Biol. Dep., Mt. Allison Univ., Sackville, NB, Canada E0A 3C0] *Raja erinacea, Squalus acanthias, Etmopterus spinax, Hemitripterus americanus, Gadus morhua, Myxine glutinosa,* and *Acipenser transmontanus.*

89-000232 Duston, James and Niall Bromage. CONSTANT PHOTOPERIOD REGIMES AND THE ENTRAINMENT OF THE ANNUAL CYCLE OF REPRODUCTION IN THE FEMALE RAINBOW TROUT *(SALMO GAIRDNERI). Gen. Comp. Endocrinol.* 65(3):373-384. 1987. FR 34(1)
[Dep. Molecular Sci., Aston Univ., Birmingham B4 7ET, England]

89-000233 Fang, L.-S. and J. L. Bada. A SPECIAL PATTERN OF HAEM CATABOLISM IN A MARINE FISH, *CLINOCOTTUS ANALIS,* WITH GREEN BLOOD PLASMA. *J. Fish. Biol.* 33(5):775-780. 1988. FR 34(1)
[Dep. Mar. Resour., Natl. Sun Yat-sen Univ., Kaohsiung, Taiwan 80424, China]

89-000234 Farrell, A. P.; K. R. MacLeod and C. Scott. CARDIAC PERFORMANCE OF THE TROUT *(SALMO GAIRDNERI)* HEART DURING ACIDOSIS: EFFECTS OF LOW BICARBONATE, LACTATE AND CORTISOL. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):271-277. 1988. FR 34(1)
[Dep. Biol. Sci., Simon Fraser Univ., Burnaby, BC, Canada V5A 1S6]

89-000235 Fernandez, Hector R. C.; Bryan Mazey; Belal Abdallah; Mark Perle and Asha Parekh. SPECTRAL PROPERTIES OF VISUAL PIGMENTS OF TELEOST FISH FROM THE GREAT LAKES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-15. 1988. Abstract only. FR 34(1)
[Dep. Biol., Wayne State Univ., Detroit, MI]

89-000236 Fitch, N. A. LACTATE DEHYDROGENASES IN ANTARCTIC AND TEMPERATE FISH SPECIES. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):671-676. 1988. FR 34(1)
[Dep. Physiol. & Biochem., Univ. Reading, Whiteknights, P.O. Box 228, Reading RG6 2AJ, England] *Notothenia neglecta* and *Myoxocephalus scorpius.*

89-000237 Folco, Eduardo J.; Liliana Busconi; Celina B. Martone; Raul E. Trucco and Jorge J. Sanchez. ACTIVATION OF AN ALKALINE PROTEINASE FROM FISH SKELETAL MUSCLE BY FATTY ACIDS AND SODIUM DODECYL SULPHATE. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(3):473-476. 1988. FR 34(1)
[Inst. Nac. Technol. Industrial (INTI), Cent. Invest. Tecnol. Pesquera (CITEP), Marcelo T. de Alvear 1168, 7600 Mar del Plata, Argentina]

89-000238 Fortuny, A.; A. Espinach Ros and V. G. Amutio. HORMONAL INDUCTION OF FINAL MATURATION AND OVULATION IN THE SABALO, *PROCHILODUS PLATENSIS* HOLMBERG: TREATMENTS, LATENCY AND INCUBATION TIMES AND VIABILITY OF OVULES RETAINED IN THE OVARY AFTER OVULATION. *Aquaculture* 73(1-4):373-381. 1988. FR 34(1)
[Inst. Nac. Invest. & Desarrollo Pesquero, Playa Grande 7600, Mar del Plata, Argentina]

89-000239 Fox, Stephen H.; Christopher S. Ogilvy and Arthur B. DuBois. PHYSIOLOGIC MECHANISMS GOVERNING THE CARDIOVASCULAR COMPENSATION TO GRAVITY IN BLUEFISH. *Biol. Bull. (Woods Hole)* 175(2):308. 1988. Abstract only. FR 34(1)
[John B. Pierce Found. Lab., New Haven, CT 06519] *Pomatomus saltatrix.*

PHYSIOLOGY (CONTINUED)

89-000240 Fox, Stephen H.; Christopher S. Ogilvy and Arthur B. DuBois. CIRCULATORY RESPONSES OF BLUEFISH TO EPINEPHRINE, PHENTOLAMINE, AND ATROPINE. *Biol. Bull. (Woods Hole)* 175(2):305. 1988. Abstract only. FR 34(1)
[John B. Pierce Found. Lab., New Haven, CT 06519] *Pomatomus saltatrix.*

89-000241 Garlov, P. E.; Yu. V. Altuf'ev; A. L. Polenov and A. V. Dubovskaya. RESULTS OF USING THE PREPARATION FROM THE ISOLATED ANTERIOR LOBE OF THE PITUITARY GLAND FOR STIMULATION OF MATURATION OF RUSSIAN STURGEON, *ACIPENSER GUELDENSTAEDTI* AND SEVRYUGA, *ACIPENSER STELLATUS. J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):83-91. 1988. FR 34(1)
[Inst. Cytol., Acad. Sci. USSR, Leningrad, USSR]

89-000242 Gauldie, R. W. FUNCTION, FORM AND TIME-KEEPING PROPERTIES OF FISH OTOLITHS. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):395-402. 1988. FR 34(1)
[Fish. Res. Cent., P.O. Box 297, Wellington, New Zealand] Data for 18 species.

89-000243 Gerasimchuk, V. V. ON THE FECUNDITY OF ANTARCTIC SIDESTRIPE, *PLEUROGRAMMA ANTARCTICUM. J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):98-100. 1988. FR 34(1)
[Azov-Black Sea Fish. & Oceanogr. Res. Inst. - AzCherNIRO, Kerch', USSR]

89-000244 Getachew, T. DIGESTIVE EFFICIENCY AND NUTRIENT COMPOSITION GRADIENT IN THE GUT OF *OREOCHROMIS NILOTICUS* L. IN LAKE AWASA, ETHIOPIA. *J. Fish Biol.* 33(4):501-509. 1988. FR 34(1)
[Dep. Biol., Fac. Sci., Addis Ababa Univ., P.O. Box 1176, Addis Ababa, Ethiopia]

89-000245 Gildberg, Asbjorn. ASPARTIC PROTEINASES IN FISHES AND AQUATIC INVERTEBRATES. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(3):425-435. 1988. FR 34(1)
[Inst. Fish. Technol. Res., 9000 Tromso, Norway]

89-000246 Girija, N. and H. Rehbein. COMPARISON OF PARVALBUMIN PATTERNS FROM DIFFERENT FISH SPECIES BY ISOELECTRIC FOCUSING OF MUSCLE EXTRACTS. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):723-728. 1988. FR 34(1)
[Rehbein: Inst. Biochem. & Technol., Fed. Res. Cent. Fish., Palmaille 9, D-2000 Hamburg 50, West Germany] Data for 11 species.

89-000247 Goetz, Frederick W.; F. P. Binkowski; P. D. Lorsch and S. E. Yeo. STERILIZATION OF CHINOOK SALMON, *O. TSHAWYTSCHA*, FRY BY 17α-METHYLTESTOSTERONE. *Proc. Indiana Acad. Sci.* 96:505. 1987. Abstract only. FR 34(1)
[Univ. Notre Dame, Notre Dame, IN 46556]

89-000248 Goolish, Edward M. and Ira R. Adelman. TISSUE-SPECIFIC ALLOMETRY OF AN AEROBIC RESPIRATORY ENZYME IN A LARGE AND A SMALL SPECIES OF CYPRINID (TELEOSTEI). *Can. J. Zool.* 66(10):2199-2208. 1988. In English with French summ. FR 34(1)
[Univ. Mich., School Nat. Resour., Ann Arbor 48109] *Cyprinus carpio* and *Notropis cornutus.*

PHYSIOLOGY (CONTINUED)

89-000249 Goulet, Denis and John M. Green. REPRODUCTIVE SUCCESS OF THE MALE LUMPFISH (*CYCLOPTERUS LUMPUS* L.) (PISCES: CYCLOPTERIDAE): EVIDENCE AGAINST FEMALE MATE CHOICE. *Can. J. Zool.* 66(11):2513-2519. 1988. In English with French summ. FR 34(1)
[Dep. Mar. Sci., Univ. Puerto Rico, P.O. Box 5000, Mayaguez 00709-5000]

89-000250 Graf, Werner and Robert Baker. HEMILABYRINTHECTOMY AND SELECTIVE OTOLITH LESION SYMPTOMS IN THE FLATFISH. *Biol. Bull. (Woods Hole)* 175(2):316. 1988. Abstract only. FR 34(1)
[Mar. Biol. Lab., Woods Hole, MA 02543] *Pseudopleuronectes americanus* and *Paralichthys dentatus*.

89-000251 Habig, Clifford; Richard T. Di Giulio and Mohamed B. Abou-Donia. COMPARATIVE PROPERTIES OF CHANNEL CATFISH *(ICTALURUS PUNCTATUS)* AND BLUE CRAB *(CALLINECTES SAPIDUS)* ACETYLCHOLINESTERASES. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):293-300. 1988. FR 34(1)
[School For. & Environ. Studies, Duke Univ., Durham, NC 27706]

89-000252 Hamada, Moritsugu and Hiroshi Kumagai. [CHEMICAL COMPOSITION OF SARDINE SCALE.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1987-1992. 1988. In Japanese with English summ. FR 34(1)
[Dep. Food Sci. & Technol., Shimonoseki Univ. Fish., Shimonoseki 759-65, Japan] *Sardinops melanosticta*.

89-000253 Han, Tzyy-Jan. THE ROLE OF MICROSOMAL LIPID PEROXIDATION IN FISH QUALITY CHANGE POSTMORTEM. *Ph.D. dissertation, Univ. Wash.* 226p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):963. 1988. Order No. DA8810533. FR 34(1)
Oncorhynchus mykiss.

89-000254 Heath, Alan G. ANAEROBIC AND AEROBIC ENERGY METABOLISM IN BRAIN AND LIVER TISSUE FROM RAINBOW TROUT *(SALMO GAIRDNERI)* AND BULLHEAD CATFISH *(ICTALURUS NEBULOSUS)*. *J. Exp. Zool.* 248(2):140-146. 1988. FR 34(1)
[Dep. Biol., VPI&SU, Blacksburg, VA 24061]

89-000255 Heming, Thomas A. CLINICAL STUDIES OF FISH BLOOD: IMPORTANCE OF SAMPLE COLLECTION AND MEASUREMENT TECHNIQUES. *Am. J. Vet. Res.* 50(1):93-97. 1989. FR 34(1)
[Dep. Internal Med. & Mar. Biomed. Inst., Rt. H-76, Univ. Tex. Med. Branch, Galveston 77550]

89-000256 Hightower, Lawrence E. and J. Larry Renfro. RECENT APPLICATIONS OF FISH CELL CULTURE TO BIOMEDICAL RESEARCH. *J. Exp. Zool.* 248(3):290-302. 1988. FR 34(1)
[Renfro: 75 N. Eagleville Rd., Box U-42, Dep. Physiol. & Neurobiol., Univ. Conn., Storrs 06268]

89-000257 Hughes, G. M. and Y. Kikuchi. EFFECTS OF TEMPERATURE ON THE DEFORMABILITY OF RED BLOOD CELLS OF RAINBOW TROUT AND RAY. *J. Mar. Biol. Assoc. U.K.* 68(4):619-625. 1988. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000257 CONTINUED
[Res. Unit Comp. Anim. Respiration, Univ. Bristol, Woodland Rd., Bristol BS8 1UG, England] *Oncorhynchus mykiss, Raja microcellata,* and *R. clavata.*

89-000258 Hughes, George M.; Yvonne Le Bras-Pennec and Jean-Pierre Pennec. RELATIONSHIPS BETWEEN SWIMMING SPEED, OXYGEN CONSUMPTION, PLASMA CATECHOLAMINES AND HEART PERFORMANCE IN RAINBOW TROUT (*S. GAIRDNERI* R.). *Exp. Biol. (Berlin)* 48(1):45-49. 1988. FR 34(1)
[Res. Unit Comp. Anim. Respiration, Bristol Univ., Bristol BS8 1UG, England]

89-000259 Iger, Y.; M. Abraham; A. Dotan; B. Fattal and E. Rahamim. CELLULAR RESPONSES IN THE SKIN OF CARP MAINTAINED IN ORGANICALLY FERTILIZED WATER. *J. Fish. Biol.* 33(5):711-720. 1988. FR 34(1)
[Dep. Zool., Hebrew Univ., Jerusalem, 91904, Israel] *Cyprinus carpio.*

89-000260 Iida, Takaji and Hisatsugu Wakabayashi. CHEMOTACTIC AND LEUKOCYTOSIS-INDUCING ACTIVITIES OF EEL COMPLEMENT. *Fish Pathol.* 23(1):55-58. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, 1-1-1, Yayoi, Bunkyo-ku, Tokyo 113, Japan] *Anguilla japonica.*

89-000261 Ikeda, Shizunori; Yasunori Ishibashi; Osamu Murata; Toshiro Nasu and Teruo Harada. [QUALITATIVE REQUIREMENTS OF THE JAPANESE PARROT FISH FOR WATER-SOLUBLE VITAMINS.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):2029-2035. 1988. In Japanese with English summ. FR 34(1)
[Fish. Lab., Kinki Univ., Shirahama, Wakayama 649-22, Japan] *Oplegnathus faciatus.*

89-000262 Il'ina, I. D. and V. I. Turetskiy. DEVELOPMENT OF THE DIGESTIVE FUNCTION IN FISHES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):74-82. 1988. FR 34(1)
[All-Union Pond Fish. Res. Inst. - VNIIPRKH, Rybnoe, Moscow Province, USSR]

89-000263 Itami, Toshiaki; Yukinori Takahashi; Takayoshi Okamoto and Kazushige Kubono. [PURIFICATION AND CHARACTERIZATION OF IMMUNOGLOBULIN IN SKIN MUCUS AND SERUM OF AYU.] *Nippon Suisan Gakkaishi* 54(9):1611-1617. 1988. In Japanese with English summ. FR 34(1)
[Dep. Aquacult. & Biol., Shimonoseki Univ. Fish., Shimonoseki 759-65, Japan] *Plecoglossus altivelis.*

89-000264 Iwata, Katsuya. NITROGEN METABOLISM IN THE MUDSKIPPER, *PERIOPHTHALMUS CANTONENS*: CHANGES IN FREE AMINO ACIDS AND RELATED COMPOUNDS IN VARIOUS TISSUES UNDER CONDITIONS OF AMMONIA LOADING, WITH SPECIAL REFERENCE TO ITS HIGH AMMONIA TOLERANCE. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(3):499-508. 1988. FR 34(1)
[Biol. Lab., Fac. Educ., Wakayama Univ., 930 Sakaedani, Wakayama-shi, Wakayama 640, Japan]

89-000265 Jafri, Syed Iftikhar Husain. THE BIOLOGY OF REPRODUCTION AND ITS HORMONAL CONTROL IN THE ROACH, *RUTILUS RUTILUS* (L.) (CYPRINIDAE: TELEOSTEI). *Ph.D. dissertation, Univ. Liverpool* 286p. 1980. From Diss. Abstr. Int. B Sci. Eng. 49(5):1450. 1988. Order No. BRD82011. FR 34(1)

89-000266 Janssens, P. A. and J. Waterman. HORMONAL REGULATION OF GLUCONEOGENESIS AND GLYCOGENOLYSIS IN CARP (*CYPRINUS CARPIO*) LIVER PIECES CULTURED *IN VITRO*. *Comp. Biochem. Physiol. A Comp. Physiol.*

PHYSIOLOGY (CONTINUED)

89-000266 CONTINUED 91(3):451-455. 1988. FR 34(1)
[Dep. Zool., Australian Natl. Univ., GPO Box 4, Canberra, A.C.T. 2601, Australia]

89-000267 Julshamn, Kaare; Knut-Jan Andersen; Ole Ringdal and Jan Brenna. EFFECT OF DIETARY COPPER ON THE HEPATIC CONCENTRATION AND SUBCELLULAR DISTRIBUTION OF COPPER AND ZINC IN THE RAINBOW TROUT *(SALMO GAIRDNERI). Aquaculture* 73(1-4):143-155. 1988. FR 34(1)
[Inst. Nutr., Dir. Fish., P.O. Box 4285, N-5028 Bergen, Norway]

89-000268 Kageyama, Tetsuo. THE OCCURRENCE OF ELONGATED INTERCELLULAR BRIDGES IN DEEP CELLS OF *ORYZIAS* EMBRYOS DURING BLASTULA AND GASTRULA STAGES. *J. Exp. Zool.* 248(3):306-314. 1988. FR 34(1)
[Dep. Biol., Kyoto Prefectural Univ. Med., Taishogun, Kita-ku, Kyoto 603, Japan] *O. latipes.*

89-000269 Karasinski, J. MYOSIN ISOENZYMES OF FISH HEARTS. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(2):359-363. 1988. FR 34(1)
[Dep. Cytol. & Histol., Inst. Zool., Jagiellonian Univ., ul. M. Karasia 6, 30060 Krakow, Poland] Includes data for 7 species.

89-000270 Kaul, Kamini and Samir Bhattacharya. THYROID HORMONE STIMULATION OF THE PERCH (*ANABAS TESTUDINEUS* BLOCH) OVARIAN MITOCHONDRIAL STEROIDOGENESIS. *Indian J. Exp. Biol.* 26(6):413-417. 1988. FR 34(1)
[Bhattacharya: Dep. Zool., School Life Sci., Visva-Bharati Univ., Santiniketan 731 235, India]

89-000271 Kezuka, Hiroaki; Kiyoshi Furukawa; Katsumi Aida and Isao Hanyu. DAILY CYCLES IN PLASMA MELATONIN LEVELS UNDER LONG OR SHORT PHOTOPERIOD IN THE COMMON CARP, *CYPRINUS CARPIO. Gen. Comp. Endocrinol.* 72(2):296-302. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan]

89-000272 Kiso, Katsuhiro and Sunao Kosaka. [OVARIAN DEVELOPMENT OF MASU SALMON *ONCORHYNCHUS MASOU* DURING THEIR EARLY MARINE PHASE IN WATERS NEAR OSHIKA PENINSULA, NORTHEASTERN HONSHU, JAPAN.] *Nippon Suisan Gakkaishi* 54(10):1681-1686. 1988. In Japanese with English summ. FR 34(1)
[Tohoku Regional Fish. Res. Lab., Shinhamacho, Shiogama, Miyagi 985, Japan]

89-000273 Kiss, Robert; Yvan de Launoit; Georges Lenglet and Andre Danguy. AUTORADIOGRAPHIC INVESTIGATIONS ON CELL PROLIFERATION IN THE DIGESTIVE MUCOSA OF FISHES. *Acta Zool. (Stockh.)* 69(4):225-230. 1988. FR 34(1)
[Lab. Biol. Anim. & Hist. Comp., Fac. Sci., Univ. Libre Bruxelles, 50 ave. Franklin Roosevelt, B-1050 Brussels, Belgium]

89-000274 Kitahara, Namiko; Takashi Nishizawa; Keiji Iida; Hideo Okazaki; Toshiwo Andoh and Gen-Ichiro Soma. ABSENCE OF A γ-MELANOCYTE-STIMULATING HORMONE SEQUENCE IN PROOPIOMELANOCORTIN mRNA OF CHUM SALMON *ONCORHYNCHUS KETA. Comp. Biochem. Physiol. B Comp. Biochem.* 91(2):365-370. 1988. FR 34(1)
[Soma: Biotechnol. Res. Cent., Teikyo Univ., Sagamiko, Kanagawa 199-01, Japan]

PHYSIOLOGY (CONTINUED)

89-000275 Kitazawa, Takio; Naoki Miyashita; Akihito Chugun; Kyosuke Temma and Hiroshi Kondo. ANTAGONIST LIKE ACTION OF SYNTHETIC α_2-ADRENOCEPTOR AGONISTS ON CONTRACTILE RESPONSE TO CATECHOLAMINES IN SMOOTH MUSCLE STRIPS ISOLATED FROM RAINBOW TROUT STOMACH (*SALMO GAIRDNERI*). *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):585-588. 1988. FR 34(1)
[Dep. Vet. Pharmacol., School Vet. Med. & Anim. Sci., Kitasato Univ., Towada-shi, Aomori 034, Japan]

89-000276 Kitzman, J. V.; J. F. Martin; J. H. Holley and W. G. Huber. PLASMA VOLUME, EXTRACELLULAR FLUID VOLUME, AND TOTAL BODY WATER DETERMINATIONS IN THE CHANNEL CATFISH. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):16-20. 1986. FR 34(1)
[Coll. Vet. Med., Miss. State Univ., Mississippi State 39762] *Ictalurus punctatus.*

89-000277 Kitzman, J. V.; J. H. Holley and W. G. Huber. CHRONIC BLOOD SAMPLING TECHNIQUES AND ENVIRONMENTAL CONTROL IN CHANNEL CATFISH DURING PROLONGED EXPERIMENTS. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):120-122. 1986. FR 34(1)
[Coll. Vet. Med., Miss. State Univ., Mississippi State 39762] *Ictalurus punctatus.*

89-000278 Kobayashi, Makito; Katsumi Aida; Kiyoshi Furukawa; Yean Kok Law; Toshihisa Moriwaki and Isao Hanyu. DEVELOPMENT OF SENSITIVITY TO MATURATION-INDUCING STEROIDS IN THE OOCYTES OF THE DAILY SPAWNING TELEOST, THE KISU *SILLAGO JAPONICA*. *Gen. Comp. Endocrinol.* 72(2):264-271. 1988. FR 34(1)
[Aida: Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan]

89-000279 Kocal, T. E.; T. L. Crane; B. A. Quinn; H. W. Ferguson and M. A. Hayes. DEGRADATION OF EXTRACELLULAR THYMIDINE BY CULTURED HEPATOCYTES FROM RAINBOW TROUT (*SALMO GAIRDNERI*). *Comp. Biochem. Physiol. B Comp. Biochem.* 91(3):557-561. 1988. FR 34(1)
[Dep. Pathol., Univ. Guelph, Guelph, ON, Canada N1GZ 2W1]

89-000280 Koob, Thomas J. and David L. Cox. EGG CAPSULE CATECHOL OXIDASE FROM THE LITTLE SKATE *RAJA ERINACEA* MITCHILL, 1825. *Biol. Bull. (Woods Hole)* 175(2):202-211. 1988. FR 34(1)
[Mt. Desert Island Biol. Lab., Salsbury Cove, ME]

89-000281 Kumazawa, Takeshi; Osamu Suzuki; Hiroshi Seno and Hideki Hattori. DETERMINATION OF β-PHENYLETHYLAMINE IN CATFISH (*PARASILURUS ASOTUS*) TISSUES BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):571-574. 1988. FR 34(1)
[Dep. Legal Med., Hamamatsu Univ. School Med., Hamamatsu 431-31, Japan]

89-000282 Kungvankij, Pinji; L. B. Tiro; B. P. Pudadera and I. O. Potestas. INDUCED SPAWNING AND LARVAL REARING OF GROUPER (*EPINEPHELUS SALMOIDES* MAXWELL). *Proc. Asian Fish. Forum* 1:663-666. 1986. FR 34(1)
[Network Aquacult. Cent. Asia, P.O. Box 6204, Iloilo City, Philippines]

89-000283 Kuramoto, Tsutomu; Kenichi Arima; Shinichi Kawakami; Naoto Shimizu; Akio Nakawatari; Mari Hasegawa; Shinichi Hirama; Kenichi Moriyama; Kazue Yotsugi; Fuyuki Yasuda; Michiyo Yasuda and Osamu Hiroi. [ON THE EARLY DEVELOPMENT AND THE OCCURRENCE OF TWIN MALFORMATION IN CHUM SALMON EGGS AND FRY.] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 59-73. 1988. In Japanese with English summ. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000283 CONTINUED
[Hokkaido Ishikari South High School, 143-1 Hanakawa, Ishikari-cho, Hokkaido 061-32, Japan] *Oncorhynchus keta*.

89-000284 Lackner, R.; W. Wieser; M. Huber and J. Dalla Via. RESPONSES OF INTERMEDIARY METABOLISM TO ACUTE HANDLING STRESS AND RECOVERY IN UNTRAINED AND TRAINED *LEUCISCUS CEPHALUS* (CYPRINIDAE, TELEOSTEI). *J. Exp. Biol.* 140:393-404. 1988. FR 34(1)
[Inst. Zool., Abteilung Zoophysiol., Technikerstr. 25, A-6020 Innsbruck, Austria]

89-000285 Lafeber, Floris P. J. G.; R. G. J. M. Hanssen and S. E. Wendelaar Bonga. HYPOCALCAEMIC ACITIVITY OF TROUT HYPOCALCIN AND BOVINE PARATHYROID HORMONE IN STANNIECTOMIZED EELS. *J. Exp. Biol.* 140:199-208. 1988. FR 34(1)
[Dep. Anim. Physiol., Fac. Sci., Univ. Nijmegen, Toernooiveld 25, 6525 ED Nijmegen, Netherlands]

89-000286 Lagomarsino, Irma V.; Richard C. Francis and George W. Barlow. THE LACK OF CORRELATION BETWEEN SIZE OF EGG AND SIZE OF HATCHLING IN THE MIDAS CICHLID, *CICHLASOMA CITRINELLUM*. *Copeia* 1988(4):1086-1089. 1988. FR 34(1)
[Mar. Sci. Res. Cent., SUNY, Stony Brook, NY 11794]

89-000287 Landau, R.; M. Gophen and P. Walline. LARVAL *MIROGREX TERRAESANCTAE* (CYPRINIDAE) OF LAKE KINNERET (ISRAEL): GROWTH RATE, PLANKTON SELECTIVITIES, CONSUMPTION RATES AND INTERACTION WITH ROTIFERS. *Hydrobiologia* 169(1):91-106. 1988. FR 34(1)
[Natl. Inst. Oceanogr., P.O. Box 8030, Haifa 31080, Israel]

89-000288 Landsman, R. E. and P. Moller. TESTOSTERONE CHANGES THE ELECTRIC ORGAN DISCHARGE AND EXTERNAL MORPHOLOGY OF THE MORMYRID FISH, *GNATHONEMUS PETERSII* (MORMYRIFORMES). *Experientia (Basel)* 44(10):900-903. 1988. FR 34(1)
[Dep. Psychol., Hunter Coll., CUNY, New York, NY 10024]

89-000289 Langille, Robert M. and Brian K. Hall. ARTIFICIAL FERTILIZATION, REARING, AND TIMING OF STAGES OF EMBRYONIC DEVELOPMENT OF THE ANADROMOUS SEA LAMPREY, *PETROMYZON MARINUS* L. *Can. J. Zool.* 66(2):549-554. 1988. In English with French summ. FR 34(1)
[Dep. Biol., Univ. Iowa, Iowa City 52242]

89-000290 Leatherland, J. F. and P. A. Flett. EFFECT OF PROPRANOLOL IN COMBINATION WITH TSH AND OVINE PROLACTIN ON PLASMA THYROID HORMONE LEVELS AND *IN VITRO* HEPATIC MONODEIODINATION OF THYROXINE IN BROOK CHARR, *SALVELINUS FONTINALIS* (MITCHILL). *Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):371-376. 1988. FR 34(1)
[Dep. Zool., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-000291 Leger, Rachel and Real Lallier. DEVELOPMENT OF MULTIRESISTANCE PATTERNS IN THE BACTERIAL FLORA OF TROUT FOLLOWING AN ANTIBIOTIC THERAPY. *Adv. Environ. Sci. Technol.* No. 22. p. 125-141. 1989. FR 34(1)
[Aquarium Montreal, La Ronde, Ile Ste-Helene, Montreal, PQ, Canada] *Salvelinus fontinalis*.

PHYSIOLOGY (CONTINUED)

89-000292 Leibel, Wayne S. AN ANALYSIS OF ESTERASE ACTIVITIES FROM SURGEONFISH TISSUES YIELDS EVIDENCE OF AN ATYPICAL PSEUDOCHOLINESTERASE. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(3):437-447. 1988. FR 34(1)
Acanthurus dussumieri.

89-000293 Lorenzana, R. M.; O. R. Hedstrom and D. R. Buhler. LOCALIZATION OF CYTOCHROME *P*-450 IN THE HEAD AND TRUNK KIDNEY OF RAINBOW TROUT (*SALMO GAIRDNERI*). *Toxicol. Appl. Pharmacol.* 96(1):159-167. 1987. FR 34(1)
[Buhler: Oreg. State Univ., Mar. Freshwater Biomed. Sci., Corvallis 97331]

89-000294 Magor, Brad G. GILL HISTOPATHOLOGY OF JUVENILE *ONCORHYNCHUS KISUTCH* EXPOSED TO SUSPENDED WOOD DEBRIS. *Can. J. Zool.* 66(10):2164-2169. 1988. In English with French summ. FR 34(1)
[Dep. Biol., Dalhousie Univ., Halifax, NS, Canada B3H 4J1]

89-000295 Makos, Bruce K. and John H. Youson. TISSUE LEVELS OF BILIRUBIN AND BILIVERDIN IN THE SEA LAMPREY, *PETROMYZON MARINUS* L., BEFORE AND AFTER BILIARY ATRESIA. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):701-710. 1988. FR 34(1)
[Youson: Div. Life Sci., Scarborough Campus, Univ. Toronto, West Hill, ON, Canada M1C 1A4]

89-000296 Malison, Jeffrey A.; Terrence B. Kayes; Bernard C. Wentworth and Clyde H. Amundson. GROWTH AND FEEDING RESPONSES OF MALE VERSUS FEMALE YELLOW PERCH (*PERCA FLAVESCENS*) TREATED WITH ESTRADIOL-17β. *Can. J. Fish. Aquat. Sci.* 45(11):1942-1948. 1988. In English with French summ. FR 34(1)
[Aquacult. Program, Dep. Food Sci., Univ. Wis., Madison 53707]

89-000297 Marte, Clarissa L.; Nancy Sherwood; Lawrence Crim and Josefa Tan. INDUCED SPAWNING OF MATURING MILKFISH (*CHANOS CHANOS*) USING HUMAN CHORIONIC GONADOTROPIN AND MAMMALIAN AND SALMON GONADOTROPIN RELEASING HORMONE ANALOGUES. *Aquaculture* 73(1-4):333-340. 1988. FR 34(1)
[Aquacult. Dep., Southeast Asian Fish. Dep. Cent., P.O. Box 256, Iloilo City, Philippines]

89-000298 Martem'yanov, V. L. CONTENTS OF ELECTROLYTES IN THE PLASMA AND TISSUES OF PIKE, *ESOX LUCIUS*, DURING ACCLIMATION IN WATERS OF VARIOUS SALINITIES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):152-156. 1988. FR 34(1)
[Inst. Biol. Inland Waters, AN SSSR - IBVV, Borok, Yaroslavskoy Sect., USSR]

89-000299 Martinez, Aurora; Ragnar L. Olsen and Juan Luis Serra. PURIFICATION AND CHARACTERIZATION OF TWO TRYPSIN-LIKE ENZYMES FROM THE DIGESTIVE TRACT OF ANCHOVY *ENGRAULIS ENCRASICHOLUS*. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):677-684. 1988. FR 34(1)
[Dep. Bioquim. & Biol. Mol., Fac. Cienc., Univ. Pais Vasco, Apdo. 644, 48080 Bilbao, Spain]

89-000300 Matsuyama, Hiroko; Miki Nakao and Tomoki Yano. [COMPATIBILITIES OF ANTIBODY AND COMPLEMENT AMONG DIFFERENT FISH SPECIES.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1993-1996. 1988. In Japanese with English summ. FR 34(1)
[Lab. Fish. Chem., Fac. Agric., Kyushu Univ., Fukuoka 812, Japan] *Tilapia nilotica, Cyprinus carpio, Seriola quingueradiata, Plecoglossus altivelis, Pagrus major* and *Oncorhynchus mykiss*.

PHYSIOLOGY (CONTINUED)

89-000301 Matsuyama, M.; S. Adachi; Y. Nagahama and S. Matsuura. DIURNAL RHYTHM OF OOCYTE DEVELOPMENT AND PLASMA STEROID HORMONE LEVELS IN THE FEMALE RED SEA BREAM, *PAGRUS MAJOR*, DURING THE SPAWNING SEASON. *Aquaculture* 73(1-4):357-372. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Kyusha Univ., Fukuoka 812, Japan]

89-000302 Mayer, I.; S. E. Shackley and J. S. Ryland. ASPECTS OF THE REPRODUCTIVE BIOLOGY OF THE BASS, *DICENTRARCHUS LABRAX* L. I. AN HISTOLOGICAL AND HISTOCHEMICAL STUDY OF OOCYTE DEVELOPMENT. *J. Fish Biol.* 33(4):609-622. 1988. FR 34(1)
[Dep. Zool., Stockholm Univ., S-10691 Stockholm, Sweden]

89-000303 McCauley, Robert W. and Donald A. Thomson. THERMOREGULATORY ACTIVITY IN THE TECOPA PUPFISH, *CYPRINODON NEVADENSIS AMARGOSAE*, AN INHABITANT OF A THERMAL SPRING. *Environ. Biol. Fishes* 23(1-2):135-139. 1988. FR 34(1)
[Dep. Biol., Wilfrid Laurier Univ., Waterloo, ON, Canada N2L 3C5]

89-000304 McClain, W. Ray and Delbert M. Gatlin III. DIETARY ZINC REQUIREMENT OF *OREOCHROMIS AUREUS* AND EFFECTS OF DIETARY CALCIUM AND PHYTATE ON ZINC BIOAVAILABILITY. *J. World Aquacult. Soc.* 19(3):103-108. 1988. FR 34(1)
[Gatlin: Dep. Wildl. & Fish. Sci., Tex. A&M Univ. Syst., College Station 77843-2258]

89-000305 McMillan, D. N. and D. F. Houlihan. THE EFFECT OF REFEEDING ON TISSUE PROTEIN SYNTHESIS IN RAINBOW TROUT. *Physiol. Zool.* 61(5):429-441. 1988. FR 34(1)
[Rowett Res. Inst., Bucksburn, Aberdeen, Scotland] *Oncorhynchus mykiss.*

89-000306 Mendo, J. and D. Pauly. INDIRECT ESTIMATION OF OXYGEN AND FOOD CONSUMPTION IN BONITO, *SARDA CHILIENSIS* (SCOMBRIDAE). *J. Fish. Biol.* 33(5):815-817. 1988. FR 34(1)
[Inst. Mar. Peru (IMARPE), Apartado 22, Callao, Peru]

89-000307 Meriwether, Frank H. and E. L. Torrans. EVALUATION OF A NEW ANDROGEN (MIBOLERONE) AND PROCEDURE TO INDUCE FUNCTIONAL SEX REVERSAL IN TILAPIA. *Proc. Asian Fish. Forum* 1:675-678. 1986. FR 34(1)
[Agric. Exp. Stn., Univ. Arkansas, Pine Bluff 71601] *Tilapia aurea.*

89-000308 Middaugh, Douglas P. and Jonathan M. Shenker. SALINITY TOLERANCE OF YOUNG TOPSMELT, *ATHERINOPS AFFINIS*, CULTURED IN THE LABORATORY. *Calif. Fish Game* 74(4):232-235. 1988. FR 34(1)
[U.S. Environ. Protection Agency, Sabine Island, Gulf Breeze, FL 32561]

89-000309 Mitsuda, H.; Y. Ishida; H. Yoshikawa and S. Ueno. EFFECTS OF A HIGH CONCENTRATION OF CO_2 ON ELECTROCARDIOGRAMS IN THE CARP, *CYPRINUS CARPIO*. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):749-757. 1988. FR 34(1)
[Dep. Chem., Found. Interdisciplinary Res. Inst. Environ. Sci., Nishi-iru, Hichihonmatsu, Itsutsuji-dori, Kamigyo-ku, Kyoto 602, Japan]

89-000310 Montgomery, John C.; John A. Macdonald and Gary D. Housley. LATERAL LINE FUNCTION IN AN ANTARCTIC FISH RELATED TO THE SIGNALS PRODUCED BY PLANKTONIC PREY. *J. Comp. Physiol. A Sens. Neural Behav. Physiol.*

PHYSIOLOGY (CONTINUED)

89-000310 CONTINUED 163(6):827-833. 1988. FR 34(1)
[Dep. Zool., Univ. Auckland, Private Bag, Auckland, New Zealand] *Pagothenia borchgrevinki.*

89-000311 Montgomery, John C. and John A. Macdonald. SENSORY TUNING OF LATERAL LINE RECEPTORS IN ANTARCTIC FISH TO THE MOVEMENTS OF PLANKTONIC PREY. *Science (Washington D.C.)* 235(4785):195-196. 1987. FR 34(1)
[Dep. Zool., Univ. Auckland, Auckland, New Zealand] *Pagothenia borchgrevinki.*

89-000312 Moons, L.; M. Cambre; S. Marivoet; T. F. C. Batten; J.-J. Vanderhaeghen; F. Ollevier and F. Vandesande. PEPTIDERGIC INNERVATION OF THE ADRENOCORTICOTROPIC HORMONE (ACTH)- AND GROWTH HORMONE (GH)-PRODUCING CELLS IN THE PARS DISTALIS OF THE SEA BASS *(DICENTRARCHUS LABRAX). Gen. Comp. Endocrinol.* 72(2):171-180. 1988. FR 34(1)
[Lab. Neuroendocrinol. & Immunol. Biotechnol., Zool. Inst., Naamsestr. 59, 3000 Leuven, Belgium]

89-000313 Morishita, Tatsuo; Kazuaki Uno; Yoshio Matsumoto and Takashi Takahashi. [COMPARISON OF THE PROXIMATE COMPOSITIONS IN CULTURED RED SEA BREAM DIFFERING THE LOCALITIES AND CULTURE METHODS, AND OF THE WILD FISH.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1965-1970. 1988. In Japanese with English summ. FR 34(1)
[Fac. Bioresour., Mie Univ., Tsu, Mie 514, Japan] *Pagrus major.*

89-000314 Moritomo, Tadaaki; Takaji Iida and Hisatsugu Wakabayashi. CHEMILUMINESCENCE OF NEUTROPHILS ISOLATED FROM PERIPHERAL BLOOD OF EEL. *Fish Pathol.* 23(1):49-53. 1988. FR 34(1)
[Dep. Agric., Univ. Tokyo, 1-1-1, Yayoi, Bunkyo-ku, Tokyo 113, Japan] *Anguilla japonica.*

89-000315 Moritomo, Tadaaki; Hiroyoshi Asakawa; Masanori Nakano and Tasuku Watanabe. ESTABLISHMENT AND SOME BIOLOGICAL CHARACTERISTICS OF A CELL LINE DERIVED FROM YAMAME EMBRYONAL LIVER. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1881-1887. 1988. In English. FR 34(1)
[Dep. Vet. Sci., Nihon Univ., Kameino, Fujisawa 252, Japan] *Oncorhynchus masou.*

89-000316 Mosser, Dick D. and Niels C. Bols. RELATIONSHIP BETWEEN HEAT-SHOCK PROTEIN SYNTHESIS AND THERMOTOLERANCE IN RAINBOW TROUT FIBROBLASTS. *J. Comp. Physiol. B Biochem. Syst. Environ. Physiol.* 158(4):457-467. 1988. FR 34(1)
[Bols: Dep. Biol., Univ. Waterloo, Waterloo, ON, Canada N2L 3G1] *Oncorhynchus mykiss.*

89-000317 Nagy, Kenneth A. and Charles C. Peterson. SCALING OF WATER FLUX RATE IN ANIMALS. *Univ. Calif. Publ. Zool.* 120:172p. 1988. FR 34(1)

89-000318 Nakagawa, Hiroki; Makio Asakawa and Noriyuki Enomoto. DIVERSITY IN THE CARBOHYDRATE MOIETIES OF MUCUS GLYCOPROTEINS OF VARIOUS FISHES. *Nippon Suisan Gakkaishi* 54(9):1653-1658. 1988. FR 34(1)
[Dep. Agric. Chem., Fac. Agric., Saga Univ., Honjo, Saga 840, Japan] Data for 13 species.

PHYSIOLOGY (CONTINUED)

89-000319 Nakagawa, Takayuki and Fumio Nagayama. EXTRACTABILITY OF GLYCOLYTIC ENZYMES FROM FISH MUSCLE. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1971-1974. 1988. In English. FR 34(1)
[Tokyo Univ. Fish., Konan, Minato, Tokyo 108, Japan] *Cyprinus carpio, Pagrus major,* and *Scomber japonicus.*

89-000320 Nakao, Miki and Tomoki Yano. CHARACTERIZATION OF THE CLASSICAL COMPLEMENT PATHWAY OF RAINBOW TROUT. *J. Fac. Agric. Kyushu Univ.* 33(1-2):61-65. 1988. FR 34(1)
[Lab. Fish. Chem., Fac. Agric., Kyushu Univ. 46-04, Fukuoka 812, Japan] *Oncorhynchus mykiss.*

89-000321 Nelson, Jay A.; John J. Magnuson and Weerewan Chulakasem. BLOOD OXYGEN CAPACITY DIFFERENCES IN YELLOW PERCH *(PERCA FLAVESCENS)* FROM NORTHERN WISCONSIN LAKES DIFFERING IN pH. *Can. J. Fish. Aquat. Sci.* 45(10):1699-1704. 1988. In English with French summ. FR 34(1)
[Univ. Wis., Cent. Limnol., Madison 53706]

89-000322 Nomura, Tetsuichi; Hiroshi Mayama and Kazumasa Ohkuma. [PHYSIOLOGICAL STUDIES OF MASU SALMON *(ONCORHYNCHUS MASOU)* - II. CHANGES OF TOTAL LIPID IN FRESHWATER LIFE.] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 49-58. 1988. In Japanese with English summ. FR 34(1)
[Hokkaido Salmon Hatchery, Fish. Agency Japan, 2-2 Nakanoshima, Toyohira, Sapporo 062, Japan]

89-000323 Ogilvy, Christopher S.; P. Glenn Tremml and Arthur B. DuBois. PRESSOR AND HEMODILUTION RESPONSES COMPENSATE FOR ACUTE HEMORRHAGE IN BLUEFISH. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):807-813. 1988. FR 34(1)
[Neurosurgical Serv., Mass. Gen. Hospital, Boston 02114] *Pomatomus saltatrix.*

89-000324 Okada, Takeshi; Norio Inoue and Haruo Shinano. [INFLUENCE OF KCl CONCENTRATIONS ON THE DENATURATION OF CARP F-ACTIN.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):2037-2042. 1988. In Japanese with English summ. FR 34(1)
[Biochemical Lab., Nitto Electric Instrument Co., Ltd., Shimahozumi, Ibaraki, Osaka 567, Japan] *Cyprinus carpio.*

89-000325 Oozeki, Yoshioki and Reijiro Hirano. VARIATIONS IN EGG QUALITIES OF THE JAPANESE WHITING, *SILLAGO JAPONICA,* IN THE SPAWNING SEASON. *Proc. Asian Fish. Forum* 1:679-682. 1986. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Yayoi 1-1-1, Bunkyo-ku, Tokyo 113, Japan]

89-000326 Parkhouse, W. S.; G. P. Dobson and P. W. Hochachka. CONTROL OF GLYCOGENOLYSIS IN RAINBOW TROUT MUSCLE DURING EXERCISE. *Can. J. Zool.* 66(2):345-351. 1988. In English with French summ. FR 34(1)
[Appl. Biochem. Lab., Univ. Alberta, Edmonton, AB, Canada T6G 2H9] *Oncorhynchus mykiss.*

89-000327 Patra, B. C. and A. K. Ray. PERFORMANCE OF THE AIR-BREATHING FISH, *CLARIAS BATRACHUS* (LINN.) AT VARIABLE DIETARY PROTEIN LEVELS. *Indian J. Anim. Sci.* 57(7):882-886. 1988. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000327 CONTINUED
[CSIR, Fish. Lab., Visva-Bharati Univ., Santiniketan, West Bengal 731 235, India]

89-000328 Pelissero, Catherine and Francoise Le Menn. [DETERMINATION OF SEXUAL STEROIDS AND VITELLOGENIN PLASMATIC LEVELS IN THE SIBERIAN STURGEONS (*ACIPENSER BAERI*) BRED IN FISH FARM.] *C. R. Acad. Sci. Ser. III Sci. Vie* 307(14):749-754. 1988. In French with English summ. FR 34(1)
[Lab. Biol. Mar., Univ. Bordeaux-I, 33405 Talence Cedex, France]

89-000329 Pickering, A. D.; T. G. Pottinger and J. P. Sumpter. ON THE USE OF DEXAMETHASONE TO BLOCK THE PITUITARY-INTERRENAL AXIS IN THE BROWN TROUT, *SALMO TRUTTA* L. *Gen. Comp. Endocrinol.* 65(3):346-353. 1987. FR 34(1)
[Freshwater Biol. Assoc., Ferry House, Nr Ambleside Cumbria LA22 OLP, England]

89-000330 Potapov, A. A. [THE STUDY OF CARP OLFACTORY BULB SLOW POTENTIALS.] *Biol. Nauki (Mosc.)* 296(8):45-54. 1988. In Russian with English summ. FR 34(1)
Cyprinus carpio.

89-000331 Pouliot, T. and J. de la Noue. APPARENT DIGESTIBILITY IN RAINBOW TROUT (*SALMO GAIRDNERI*): INFLUENCE OF HYPOXIA. *Can. J. Fish. Aquat. Sci.* 45(11):2003-2009. 1988. In English with French summ. FR 34(1)
[Cent. Rech. Nutr. & Group Rech. Recyclage Biol. Aquicult., Univ. Laval, Ste-Foy, PQ, Canada G1K 7P4]

89-000332 Puckett, H. M. and G. L. Hendrickson. ECOLOGY AND POSSIBLE CAUSES OF THE JELLIED CONDITION IN DOVER SOLE (*MICROSTOMUS PACIFICUS*). *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):3-8. 1986. FR 34(1)
[Dep. Fish., Humboldt State Univ., Arcata, CA 95521]

89-000333 Pyeun, Jae-Hyeung; Hyeung-Rak Kim and Min-Soo Heu. THE PROTEINASE DISTRIBUTED IN THE INTESTINAL ORGANS OF FISH. 3. PURIFICATION AND SOME ENZYMATIC PROPERTIES OF THE ALKALINE PROTEINASES FROM THE PYLORIC CAECA OF SKIPJACK, *KATSUWONUS VAGANS*. *Bull. Korean Fish. Soc.* 21(2):85-96. 1988. In English. FR 34(1)
[Dep. Nutr. & Food Sci., Natl. Fish. Univ. Pusan, Pusan 608-737, Korea]

89-000334 Quesada, J.; M. T. Lozano; A. Ortega and B. Agulleiro. IMMUNOCYTOCHEMICAL AND ULTRASTRUCTURAL CHARACTERIZATION OF THE CELL TYPES IN THE ADENOHYPOPHYSIS OF *SPARUS AURATA* L. (TELEOST). *Gen. Comp. Endocrinol.* 72(2):209-225. 1988. FR 34(1)
[Dep. Cell Biol., Univ. Murcia, Murcia, Spain]

89-000335 Quinn, T. P.; A. F. Olson and J. T. Konecki. EFFECTS OF ANAESTHESIA ON THE CHEMOSENSORY BEHAVIOUR OF PACIFIC SALMON. *J. Fish Biol.* 33(4):637-641. 1988. FR 34(1)
[School Fish., WH-10, Univ. Wash., Seattle 98195] *Oncorhynchus kisutch* and *O. tshawytscha* in Washington.

89-000336 Raae, Arnt J.; John Davenport and Bernt Walther. CHARACTERISTICS OF A PROTEINASE FROM OVARIAN FLUID OF THE LUMPSUCKER (*CYCLOPTERUS LUMPUS* L.). *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):647-650. 1988.

PHYSIOLOGY (CONTINUED)

89-000336 CONTINUED FR 34(1)
[Univ. Bergen, Dep. Biochem., Arstadveien 19, N-5009 Bergen, Norway]

89-000337 Raae, Arnt J.; Ingegjerd Opstad; Per Kvenseth and Bernt Th. Walther. RNA, DNA AND PROTEIN DURING EARLY DEVELOPMENT IN FEEDING AND STARVED COD (*GADUS MORHUA* L.) LARVAE. *Aquaculture* 73(1-4):247-259. 1988. FR 34(1)
[Dep. Biochem., Univ. Bergen, Arstadveien 19, N-5009 Bergen, Norway]

89-000338 Ramaiah, N.; L. Manohar and D. Seenappa. TISSUE LEVELS OF THREE SULPHONAMIDES IN THE FINGERLINGS OF ROHU (*LABEO ROHITA*) AND MRIGAL (*CIRRHINUS MRIGALA*) FED AT THREE DIFFERENT DOSAGES. *Indian J. Anim. Sci.* 58(8):997-1002. 1988. FR 34(1)
[Biol. Oceanogr. Div., Natl. Inst. Oceanogr., Dona Paula, GOA 403 404, India]

89-000339 Razani, Hossein; Isao Hanyu and Katsumi Aida. ENVIRONMENTAL INFLUENCES ON TESTICULAR ACTIVITY AND RELATED HORMONES IN YEARLING GOLDFISH. *Nippon Suisan Gakkaishi* 54(9):1505-1511. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan] *Carassius auratus*.

89-000340 Razani, Hossein; Isao Hanyu and Katsumi Aida. ENVIRONMENTAL INFLUENCES ON OVARIAN ACTIVITY AND RELATED HORMONES IN YEARLING GOLDFISH. *Nippon Suisan Gakkaishi* 54(9):1505-1511. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan] *Carassius auratus*.

89-000341 Reshkin, S. J.; S. Vilella; G. Cassano; G. A. Ahearn and C. Storelli. BASOLATERAL AMINO ACID AND GLUCOSE TRANSPORT BY THE INTESTINE OF THE TELEOST, *ANGUILLA ANGUILLA*. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):779-788. 1988. FR 34(1)
[Dep. Zool., 2538 The Mall, Univ. Hawaii, Honolulu 96822]

89-000342 Reshkin, Stephan J.; Giuseppe Cassano; Christopher Womersley and Gregory A. Ahearn. PRESERVATION OF GLUCOSE TRANSPORT AND ENZYME ACTIVITY IN FISH INTESTINAL BRUSH-BORDER AND BASOLATERAL MEMBRANE VESICLES. *J. Exp. Biol.* 140:123-135. 1988. FR 34(1)
[Dep. Zool., Univ. Hawaii, 2538 The Mall, Honolulu 96822] *Tilapia mossambica*.

89-000343 Riggs, Austen. [HEMAGLOBIN STUDIES OF AMAZON FISHES: A REVIEW.] *Acta Amazonica* 14(3-4):373-449. 1984. In Portuguese with English summ. FR 34(1)

89-000344 Rogers, S. I. THE SEASONAL PARTITIONING OF ENERGY IN AN ESTUARINE FISH, THE COMMON GOBY, *POMATOSCHISTUS MICROPS* KROYER. *J. Fish Biol.* 33(Suppl. A):45-50. 1988. FR 34(1)
[MAFF, Fish. Lab., Conwy, Gwynedd LL32 8UB, Wales]

89-000345 Ronner, Peter and Antonio Scarpa. SECRETAGOGUES FOR PANCREATIC HORMONE RELEASE IN THE CHANNEL CATFISH (*ICTALURUS PUNCTATUS*). *Gen. Comp. Endocrinol.* 65(3):354-362. 1987. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000345 CONTINUED
[Dep. Biochem., School Med. & Dentistry, Univ. Rochester, Rochester, NY 14642]

89-000346 Saidin, Thalathiah. INDUCED SPAWNING OF *CLARIAS MACROCEPHALUS* (GUNTHER). *Proc. Asian Fish. Forum* 1:683-686. 1986. FR 34(1)
[Freshwater Fish. Res. Cent., Dep. Fish., Batu Berendam, 75350 Melaka, Malaysia]

89-000347 Sakaguchi, Morihiko; Michiyo Murata; Toshiko Daikoku and Shigeru Arai. EFFECTS OF DIETARY TAURINE ON WHOLE BODY AND TISSUE TAURINE LEVELS OF GUPPY AND EEL. *Nippon Suisan Gakkaishi* 54(9):1647-1652. 1988. FR 34(1)
[Res. Inst. Food Sci., Kyoto Univ., Uji, Kyoto 611, Japan] *Poecilla reticulata* and *Anguilla anguilla*.

89-000348 Sanchez, Dorothea Yialamas. THE EFFECTS OF POSTEMBRYONIC RECEPTOR CELL ADDITION ON RESPONSE PROPERTIES OF AFFERENTS IN THE ELECTROSENSORY SYSTEM OF *STERNOPYGUS MACRURUS*. *Ph.D. dissertation, Univ. Tex., Austin* 107p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2070-2071. 1988. DA8816560. FR 34(1)

89-000349 Sanchez, Ivelisse and William D. Cohen. ISOLATION OF THE DOGFISH ERYTHROCYTE MARGINAL BAND USING DETERGENTS. *Biol. Bull. (Woods Hole)* 175(2):302. 1988. Abstract only. FR 34(1)
Mustelus canis.

89-000350 Sasayama, Yuichi; Fumihiko Mizutani; Nobuo Suzuki and Chitaru Oguro. ELEVATION OF SERUM PHOSPHATE (Pi) LEVELS ASSOCIATED WITH BLOOD SAMPLING IN SOME TELEOSTS. *Nippon Suisan Gakkaishi* 54(9):1667. 1988. FR 34(1)
[Fac. Sci., Toyama Univ., Toyama 930, Japan] *Takifugu niphobles* and *Carassius auratus*.

89-000351 Semmens, Kenneth John. EVALUATION OF PADDLEFISH HYPOPHYSIS, CARP HYPOPHYSIS AND LHRH ANALOGUE TO INDUCE OVULATION IN PADDLEFISH, *POLYODON SPATHULA*. *Ph.D. dissertation, Auburn Univ.* 86p. 1986. From Diss. Abstr. Int. B Sci. Eng. 49(5):1452. 1988. Order No. DA8724349. FR 34(1)

89-000352 Seshappa, G. and B. K. Chakrapani. ON THE SEX PROPORTIONS AND MATURITY TRENDS IN *CYNOGLOSSUS SEMIFASCIATUS* DAY ON THE WEST COAST DURING 1980-81. *J. Bombay Nat. Hist. Soc.* 84(3):620-627. 1987. FR 34(1)
[706, 2nd C Cross Rd., Basaveswara Nagar, Bangalore 560 079, India]

89-000353 Sheridan, Mark A. and Nancy A. Muir. EFFECTS OF EPINEPHRINE AND NOREPINEPHRINE ON GLUCOSE RELEASE FROM CHINOOK SALMON (*ONCORHYNCHUS TSHAWYTSCHA*) LIVER INCUBATED IN VITRO. *J. Exp. Zool.* 248(2):155-159. 1988. FR 34(1)
[Dep. Zool., N.D. State Univ., Fargo 58105]

89-000354 Shim, K. F. and S. H. Ng. MAGNESIUM REQUIREMENT OF THE GUPPY (*POECILIA RETICULATA* PETERS). *Aquaculture* 73(1-4):131-141. 1988. FR 34(1)

PHYSIOLOGY (CONTINUED)

89-000354 CONTINUED
[Dep. Zool., Natl. Univ. Singapore, Lower Kent Ridge Rd., Singapore 0511, Singapore]

89-000355 Smith, Michael A. K. and Fauhima Jiffry. REPRODUCTIVE STRATEGY OF *LABEO DUSSEMERII* AND IMPLICATIONS OF HYDROELECTRIC AND IRRIGATION PROJECTS ON THE MAHAWELI GANGA, SRI LANKA. *Proc. Asian Fish. Forum* 1:693-696. 1986. FR 34(1)
[Dep. Zool., Colombo Univ., Thurston Rd., Colombo, Sri Lanka]

89-000356 Sorokin, M. A. [DIRECTIONAL HEARING OF CLUPEID FISHES.] *Mar. Biol. (Vladivostok)* 1988(4):42-47. 1988. In Russian with English summ. FR 34(1)
[Bioacoustics Lab., Pac. Res. Inst. Fish. & Oceanogr., Vladovostok 690600, USSR] *Clupea harengus pallasi.*

89-000357 Sorokin, M. A.; S. I. Penkin and A. N. Lebedeva. ON THE DISTANCE OF DIRECTIONAL SOUND DISCRIMINATION BY FISHES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):157-160. 1988. FR 34(1)
[Pac. Sci.-Res. Inst. Fish. & Oceanogr. - TINRO, USSR] *Sardinops sagax melanosticta.*

89-000358 Springer, Timothy A. and William H. Neill. AUTOMATED DETERMINATION OF CRITICAL OXYGEN CONCENTRATION FOR ROUTINELY ACTIVE FISH. *Environ. Biol. Fishes* 23(3):233-240. 1988. FR 34(1)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843] *Lepomis macrochirus.*

89-000359 Subbotkin, M. F. COMPARATIVE IMMUNOCHEMICAL ANALYSIS OF INTER-AND INTRASPECIFIC DIFFERENCES OF SERUM PROTEINS OF THREE STURGEON SPECIES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):31-38. 1988. FR 34(1)
[Inst. Biol. Inland Waters, Acad. Sci. USSR, Borok, Yaroslavl' Province, USSR] *Acipenser gueldenstaedti, A. persicus, A. baeri,* and *A. gueldenstaedti colchicus.*

89-000360 Sugita, Haruo; Michikazu Fukumoto and Yoshiaki Deguchi. CHANGES IN THE FECAL MICROFLORA OF GOLDFISH *CARASSIUS AURATUS*, ASSOCIATED WITH DIETS. *Nippon Suisan Gakkaishi* 54(9):1641-1645. 1988. FR 34(1)
[Dep. Fish., Coll. Agric. & Vet. Med., Nihon Univ., Shimouma, Setagaya, Tokyo 154, Japan]

89-000361 Sukhachev, V. A. and A. V. Muzhikov. OLFACTORY IMPRINTING OF THE ENVIRONMENT IN *COREGONUS PELED* G. *Dokl. Biol. Sci. (Engl. Transl. Dokl. Akad. Nauk SSSR)* 298(1-6):100-103. 1988. FR 34(1)
[Biol. Inst. Siberian Branch Acad. Sci. USSR, Novosibirsk, USSR]

89-000362 Sundell, Kristina and Bjorn Thrandur Bjornsson. KINETICS OF CALCIUM FLUXES ACROSS THE INTESTINAL MUCOSA OF THE MARINE TELEOST, *GADUS MORHUA*, MEASURED USING AN *IN VITRO* PERFUSION METHOD. *J. Exp. Biol.* 140:171-186. 1988. FR 34(1)
[Dep. Zoophysiol., Univ. Goteborg, P.O. Box 250 59, S-400 31 Goteborg, Sweden]

PHYSIOLOGY (CONTINUED)

89-000363 Svensson, Ingrid. REPRODUCTIVE COSTS IN TWO SEX-ROLE REVERSED PIPEFISH SPECIES (SYNGNATHIDAE). *J. Anim. Ecol.* 57(3):929-942. 1988. FR 34(1)
[Dep. Zool., Uppsala Univ., Box 561, S-751 22 Uppsala, Sweden] *Syngnathus typhle* and *Nerophis ophidion.*

89-000364 Takei, Yoshio. CHANGES IN BLOOD VOLUME AFTER ALTERATION OF HYDROMINERAL BALANCE IN CONSCIOUS EELS, *ANGUILLA JAPONICA. Comp. Biochem. Physiol. A Comp. Physiol.* 91(2):293-297. 1988. FR 34(1)
[Dep. Physiol., Kitasato Univ. School Med., 1-15-1 Kitasato, Sagamihara, Kanagawa 228, Japan]

89-000365 Tan, C. H.; L. Y. Wong; M. K. Pang and T. J. Lam. TILAPIA PROLACTIN STIMULATES ESTRADIOL-17β SYNTHESIS IN VITRO IN VITELLOGENIC OOCYTES OF THE GUPPY *POECILIA RETICULATA. J. Exp. Zool.* 248(3):361-364. 1988. FR 34(1)
[Dep. Zool., Natl. Univ. Singapore, Kent Ridge 0511, Singapore]

89-000366 Tang, Yong and Robert G. Boutilier. CLEARANCE OF LACTATE AND PROTONS FOLLOWING ACUTE LACTACIDOSIS: A COMPARISON BETWEEN SEAWATER- AND FRESHWATER-ADAPTED RAINBOW TROUT *(SALMO GAIRDNERI). Exp. Biol. (Berlin)* 48(1):41-44. 1988. FR 34(1)
[Boutilier: Dep. Biol., Dalhousie Univ., Halifax, NS, Canada B3H 4J1]

89-000367 Tiersch, T. R. and J. S. Griffith. APOMORPHINE-INDUCED VOMITING IN RAINBOW TROUT *(SALMO GAIRDNERI). Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):721-725. 1988. FR 34(1)
[Ecol. Res. Cent., Dep. Biol., Memphis State Univ., Memphis, TN 38152]

89-000368 Tigano, Concetta and Lynne R. Parenti. HOMOLOGY OF THE MEDIAN ETHMOID OSSIFICATIONS OF *APHANIUS FASCIATUS* AND OTHER ATHERINOMORPH FISHES. *Copeia* 1988(4):866-870. 1988. FR 34(1)
[Dip. Biol. Anim. Universita, via Androne 81, 95124 Catania, Italy]

89-000369 Timmers, R. J. M.; J. C. M. Granneman; J. G. D. Lambert and P. G. W. J. van Oordt. ESTROGEN-2-HYDROXYLASE IN THE BRAIN OF THE MALE AFRICAN CATFISH, *CLARIAS GARIEPINUS. Gen. Comp. Endocrinol.* 72(2):190-203. 1988. FR 34(1)
[Lambert: Dep. Exp. Zool., Res. Group Comp. Endocrinol., Univ. Utrecht, Padualaan 8, 3584 CH Utrecht, Netherlands]

89-000370 Timmers, R. J. M. and J. G. D. Lambert. KINETIC STUDIES OF CATECHOL-*O*-METHYLTRANSFERASE FROM THE BRAIN OF THE AFRICAN CATFISH, *CLARIAS GARIEPINUS. Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):399-402. 1988. FR 34(1)
[Dep. Exp. Zool., Res. Group Comp. Endocrinol., Univ. Utrecht, Padualaan 8, 3584 CH Utrecht, Netherlands]

89-000371 Tomioka, Kazuko and Kinji Endo. [EFFECT OF SODIUM CHLORIDE AND GLYCERINE ON ACTIVITIES OF ENZYMES DECOMPOSING 5'-INOSINIC ACID IN FISH MUSCLE.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1947-1951. 1988. In Japanese with English summ. FR 34(1)
[Nara Univ. Educ., Nara 630, Japan] *Seriola quinqueradiata, Sardinops melanostictus, Trachurus japonicus, Pagrus major, Nemipterus virgatus, Scomber japonicus, Oncorhynchus nerka, Cololabis saira, Hippoglossoides dubius, Stephanalepis cirrhifer.*

PHYSIOLOGY (CONTINUED)

89-000372 Torrans, Les; Frank Meriwether; Fran Lowell; Bill Wyatt and Paul D. Gwinup. SEX-REVERSAL OF *OREOCHROMIS AUREUS* BY IMMERSION IN MIBOLERONE, A SYNTHETIC STEROID. *J. World Aquacult. Soc.* 19(3):97-102. 1988. FR 34(1)
[Cane Creek Farm, P.O. Box 5240, Pine Bluff, AR 71611]

89-000373 Tsukamoto, Katsumi; Katsumi Aida; and Tsuguo Otake. PLASMA THYROXINE CONCENTRATION AND UPSTREAM MIGRATORY BEHAVIOR OF JUVENILE AYU. *Nippon Suisan Gakkaishi* 54(10):1687-1693. 1988. In English. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Nakano, Tokyo 164, Japan] *Plecoglossus altivelis.*

89-000374 Tufts, B. L.; R. A. Ferguson and R. G. Boutilier. *IN VIVO* AND *IN VITRO* EFFECTS OF ADRENERGIC STIMULATION ON CHLORIDE/BICARBONATE EXCHANGE IN RAINBOW TROUT ERYTHROCYTES. *J. Exp. Biol.* 140:301-312. 1988. FR 34(1)
[Biol. Dep., Dalhousie Univ., Halifax, NS, Canada B3H 4J1] *Oncorhynchus mykiss.*

89-000375 Tyler, Charles R.; John P. Sumpter and Niall R. Bromage. SELECTIVITY OF PROTEIN SEQUESTRATION BY VITELLOGENIC OOCYTES OF THE RAINBOW TROUT, *SALMO GAIRDNERI*. *J. Exp. Zool.* 248(2):199-206. 1988. FR 34(1)
[Dep. Biol. & Biochem., Brunel Univ., Uxbridge, Middlesex UB8 3PH, England]

89-000376 Usher, M. L.; C. Talbot and F. B. Eddy. DRINKING IN ATLANTIC SALMON SMOLTS TRANSFERRED TO SEAWATER AND THE RELATIONSHIP BETWEEN DRINKING AND FEEDING. *Aquaculture* 73(1-4):237-246. 1988. FR 34(1)
[Freshwater Fish. Lab., Pitlochry PH16 5LB, Scotland] *Salmo salar.*

89-000377 Van Vliet, B. N.; J. D. Metcalfe; P. J. Butler and N. H. West. THE CONCENTRATION DEPENDENCE OF THE STIMULATORY EFFECTS OF CATECHOLAMINES ON THE RATE AND FORCE OF CONTRACTION OF THE HEART OF DOGFISH (*SCYLIORHINUS CANICULA*). *J. Exp. Biol.* 140:549-555. 1988. FR 34(1)
[Dep. Physiol. & Biophysics, Univ. Miss. Med. Cent., 2500 N. State St., Jackson 39216-4505]

89-000378 Van Waarde, Aren. BIOCHEMISTRY OF NON-PROTEIN NITROGENOUS COMPOUNDS IN FISH INCLUDING THE USE OF AMINO ACIDS FOR ANAEROBIC ENERGY PRODUCTION. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(2):207-228. 1988. FR 34(1)
[Dep. Anim. Physiol., Gorlaeus Lab., Univ. Leiden, Einsteinweg 5, P.O. Box 9502, 2300 RA Leiden, Netherlands]

89-000379 Vinogradov, G. A.; V. T. Komov and A. K. Klerman. ION REGULATION IN ATLANTIC SALMON, *SALMO SALAR*, AT DIFFERENT ONTOGENETIC STAGES. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):92-97. 1988. FR 34(1)
[Inst. Biol. Inland Waters, Acad. Sci. USSR, Borok, Yaroslavl' Province, USSR]

89-000380 Wagner, Graham F.; James C. Fenwick; Carol M. Park; Christine Milliken; D. Harold Copp and Henry G. Friesen. COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY OF TELEOCALCIN FROM SOCKEYE AND COHO SALMON. *Gen. Comp. Endocrinol.* 72(2):237-246. 1988. FR 34(1)
[Dep. Physiol., Fac. Med., Univ. Manitoba, 770 Bannatyne Ave., Winnipeg, MB, Canada R3E 0W3] *Oncorhynchus nerka* and *O. kisutch.*

PHYSIOLOGY (CONTINUED)

89-000381 Walker, Michael M.; Thomas P. Quinn; Joseph L. Kirschvink and Cornelis Groot. PRODUCTION OF SINGLE-DOMAIN MAGNETITE THROUGHOUT LIFE BY SOCKEYE SALMON, *ONCORHYNCHUS NERKA*. *J. Exp. Biol.* 140:51-63. 1988. FR 34(1)
[Bekesy Lab. Neurobiol., Univ. Hawaii, 1993 East-West Rd., Honolulu 96822]

89-000382 Watanabe, T.; T. Iwamatsu; T. Ohta; K. Onitake; O. P. Saxena and M. Tadano. ANTIGENICITY ON SPERM SURFACE OF THE RAINBOW TROUT *SALMO GAIRDNERI*. *Indian J. Exp. Biol.* 26(5):345-351. 1988. FR 34(1)
[Dep. Biol., Aichi Univ. Educ., Kariya 448, Japan]

89-000383 Weber, Jean-Michel. LACTATE TURNOVER IN FAST-MOVING VERTEBRATES: THE CONTROL OF PLASMA METABOLITE FLUXES. *Ph.D. dissertation, Univ. British Columbia (Canada)* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(6):2083-2084. 1988. FR 34(1)

89-000384 Weiser, Michael; Andrew Bass; James G. McElligott and Robert Baker. EYE MOVEMENT REPERTOIRE OF THE CABAZON SCULPIN, *SCORPAENICHTHYS MARMORATUS*. *Biol. Bull. (Woods Hole)* 175(2):308-309. 1988. Abstract only. FR 34(1)
Leptocottus armatus.

89-000385 Whitear, Mary and K. Kotrschal. THE CHEMOSENSORY ANTERIOR DORSAL FIN IN ROCKLINGS (*GAIDROPSARUS* AND *CILIATA*, TELEOSTEI, GADIDAE): ACTIVITY, FINE STRUCTURE AND INNERVATION. *J. Zool. (Lond.)* 216(2):339-366. 1988. FR 34(1)
[Dep. Biol. (Medawar Bldg.), University Coll., London WC1E 6BT, England] *C. Mustela* and *G. Mediterraneus*.

89-000386 William, F.; H. Beamish and Trudy E. Medland. METAMORPHOSIS OF THE MOUNTAIN BROOK LAMPREY *ICHTHYOMYZON GREELEYI*. *Environ. Biol. Fishes* 23(1-2):45-54. 1988. FR 34(1)
[Dep. Zool., Group Advancement Fish Studies, Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-000387 Wong See Yong and Leong Tak Seng. BACTERIAL FLORA OF SEABASS, *LATES CALCARIFER* BLOCH, IMPORTED FROM THAILAND FOR CAGE CULTURE IN PENANG, MALAYSIA. *Proc. Asian Fish. Forum* 1:243-246. 1986. FR 34(1)
[School Biol. Sci., Univ. Sains Malaysia, Penang, Malaysia]

89-000388 Wright, Patricia Anne. AMMONIA STORES AND EXCRETION IN FISH: RELATIONSHIP TO pH. *Ph.D. dissertation, Univ. British Columbia (Canada)* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(6):2084-2085. 1988. FR 34(1)
Oncorhynchus mykiss and *Parophrys vetulus*.

89-000389 Wright, R. M. and E. A. Shoesmith. THE REPRODUCTIVE SUCCESS OF PIKE, *ESOX LUCIUS*: ASPECTS OF FECUNDITY, EGG DENSITY AND SURVIVAL. *J. Fish Biol.* 33(4):623-636. 1988. FR 34(1)
[School Sci., Univ. Buckingham, Buckingham, England]

89-000390 Xu Gang; Takafumi Arimoto and Makoto Inoue. [THE MEASUREMENTS OF SWIMMING SPEED IN JACK MACKEREL *TRACHURUS JAPONICUS*.] *Nippon Suisan Gakkaishi* 54(9):1493-1497. 1988. In Japanese with English summ. FR 34(1)
[Fac. Fish., Tokyo Univ. Fish., Minato, Tokyo 108, Japan]

PHYSIOLOGY (CONTINUED)

89-000391 Yamaguchi, Toshiyasu; Yoshio Sato; Maso Ito; Naohiro Moritani and Masahiro Hata. [THE LIPID AND FATTY ACID COMPOSITIONS IN TISSUES OF CULTURED AND WILD COHO SALMON *ONCORHYNCHUS KISUTCH*.] *Nippon Suisan Gakkaishi* 54(9):1601-1605. 1988. In Japanese with English summ. FR 34(1)
[Dep. Fish., Fac. Agric., Tohoku Univ., Sendai 980, Japan]

89-000392 Yamamitsu, Shunichi and Yasuo Itazawa. [EFFECTS OF AN ANESTHETIC 2-PHENOXYETHANOL ON THE HEART RATE, ECG AND RESPIRATION IN CARP.] *Nippon Suisan Gakkaishi* 54(10):1737-1746. 1988. In Japanese with English summ. FR 34(1)
[Dep. Fish., Fac. Agric., Kyushu Univ., Hakozaki, Higashi, Fukuoka 812, Japan] *Cyprinus carpio*.

89-000393 Yano, Tomoki; Hiroko Matsuyama and Miki Nakao. FORMATION AND CHARACTERISTICS OF AN INTERMEDIATE COMPLEX EAC1,4,2 IN IMMUNE HEMOLYSIS BY CARP COMPLEMENT. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1997-2000. 1988. In English. FR 34(1)
[Lab. Fish. Chem., Fac. Agric., Kyushu Univ., Fukuoka 812, Japan] *Cyprinus carpio*.

89-000394 Yano, Tomoki; Yukihiro Hatayama; Hiroko Matsuyama and Miki Nakao. OPTIMUM CONDITIONS FOR THE ASSAY OF THE CLASSICAL PATHWAY-COMPLEMENT TITER OF TILAPIA (*TILAPIA NILOTICA*) SERUM. *J. Fac. Agric. Kyushu Univ.* 33(1-2):29-36. 1988. FR 34(1)
[Lab. Fish. Chem., Fac. Agric., Kyushu Univ. 46-04, Fukuoka 812, Japan]

89-000395 Yoshikawa, H.; Y. Ishida; Y. Yokoyama; S. Ueno and H. Mitsuda. ELECTROCARDIOGRAMS IN FIVE BIPOLAR LEADS RECORDED FROM THE BODY SURFACE OF THREE FISH SPECIES (*CYPRINUS CARPIO, OREOCHROMIS NILOTICUS* AND *PAGRUS MAJOR*) IN FRESH OR SEA-WATER. *Comp. Biochem. Physiol. A Comp. Physiol.* 91(4):759-764. 1988. FR 34(1)
[Dep. Chem., Found. Interdisciplinary Res. Inst. Environ. Sci., Nishi-iru, Hichihon-matsu, Itsutsuji-dori, Kamigyo-ku, Kyoto 602, Japan]

89-000396 Young, John R. and Thomas B. Hoff. AGE-SPECIFIC VARIATION IN REPRODUCTIVE EFFORT IN FEMALE HUDSON RIVER STRIPED BASS. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 124-133. 1988. FR 34(1)
[Consolidated Edison, Environ. Affairs Rm. 306-S, 4 Erving Pl., New York, NY 10003] *Morone saxatilis* in New York.

89-000397 Zaky, M. I. [THE STUDY OF *SOLEA SOLEA* (L.) REPRODUCTION UNDER EXPERIMENTAL CONDITIONS.] *Biol. Nauki (Mosc.)* 296(8):41-45. 1988. In Russian with English summ. FR 34(1)

89-000398 Zhao, Weixin; Renliang Jiang; Shijiao Huang and Hongqi Zhou. GONADOTROPIN AND 17β-OESTRADIOL CHANGES DURING INDUCED SPAWNING AND ANNUAL REPRODUCTIVE CYCLE IN WUCHANG FISH (*MEGALOBRAMA AMBLYCEPHALA*). *Proc. Asian Fish. Forum* 1:707-710. 1986. FR 34(1)
[Shanghai Fish. Univ., 334 Rd., Shanghai, China]

89-000399 Zimmerman, Earl G.; Edwin H. Liu; Michael H. Smith and Michael C. Wooten. MICROHABITAT VARIATION IN ENZYME ACTIVITIES IN THE MOSQUITOFISH, *GAMBUSIA AFFINIS*. *Can. J. Zool.* 66(2):515-521. 1988. In English with French summ. FR 34(1)
[Dep. Biol. Sci., N. Tex. State Univ., Denton 76203]

GENETICS, VARIATION STUDIES AND HYBRIDIZATION

89-000400 Al-Hassan, L. A. J. GENETIC VARIATION AND POPULATIONS STRUCTURE IN *THRYSSA HAMILTONII* AND *NEMATALOSA NASUS* IN IRAQI WATERS. *J. Fish Biol.* 33(Suppl. A):219-220. 1988. FR 34(1)
[Dep. Fish. & Mar. Resour., Coll. Agric., Univ. Basrah, Basrah, Iraq]

89-000401 Amemiya, Chris Tsuyoshi. CYTOGENETIC AND CYTOSYSTEMATIC STUDIES ON THE NUCLEOLUS ORGANIZER REGIONS OF NORTH AMERICAN CYPRINID FISHES. *Ph.D. dissertation, Tex. A&M Univ.* 287p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1005. 1988. Order No. DA8808723. FR 34(1)

89-000402 Arai, Katustoshi. VIABILITY OF ALLOTRIPLOIDS IN SALMONIDS. *Nippon Suisan Gakkaishi* 54(10):1695-1701. 1988. In English. FR 34(1)
[Kitasato Univ. School. Fish. Sci., Sanriku, Iwate 022-01, Japan] *Salvelinus fontinalis, Oncorhynchus masou,* and *O. nerka.*

89-000403 Banerjee, S. K.; K. K. Misra; S. Banerjee and S. P. Ray-Chaudhuri. CHROMOSOME NUMBERS, GENOME SIZES, CELL VOLUMES AND EVOLUTION OF SNAKE-HEAD FISH (FAMILY CHANNIDAE). *J. Fish. Biol.* 33(5):781-789. 1988. FR 34(1)
[Genet. Res. Unit, Dep. Zool., Univ. Calcutta, 35 Ballygunge Circular Rd., Calcutta 700 019, India] *Channa punctatus, C. striatus,* and *C. gachua.*

89-000404 Bartley, Devin Michael. THE GENETIC STRUCTURE OF CHINOOK AND COHO SALMON POPULATIONS IN CALIFORNIA, WITH A NOTE ON THE GENETIC VARIABILITY IN STURGEON (ACIPENSERIDAE). *Ph.D. dissertation, Univ. Calif. (Davis)* 210p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):996-997. 1988. Order No. DA8809730. FR 34(1)
Oncorhynchus tshawytscha, O. kisutch, Acipenser transmontanus, A. medirostris, A. fulvescens, and *A. brevirostrum.*

89-000405 Billington, Neil; Paul D. N. Hebert and Robert D. Ward. EVIDENCE OF INTROGRESSIVE HYBRIDIZATION IN THE GENUS *STIZOSTEDION*: INTERSPECIFIC TRANSFER OF MITOCHONDRIAL DNA BETWEEN SAUGER AND WALLEYE. *Can. J. Fish. Aquat. Sci.* 45(11):2035-2041. 1988. In English with French summ. FR 34(1)
[Dep. Biol. Sci., Great Lakes Inst., Univ. Windsor, Windsor, ON, Canada N9B 3P4] *S. vitreum* and *S. canadense.*

89-000406 Bobak, Petr and Vlastimil Slechta. COMPARISON OF PARVALBUMINS OF SOME SPECIES OF FAMILY CYPRINIDAE. *Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):697-699. 1988. FR 34(1)
[Dep. Genet., Inst. Anim. Physiol. & Genet., Czech. Acad. Sci., 277 21 Libechov, Czechoslovakia] *Leuciscus leuciscus, L. cephalus, Alburnus alburnus, Rutilus rutilus,* and *Gobio gobio.*

89-000407 Chao, Nai-Hsien; Shyh-Jyi Chen and I-Chiu Liao. TRIPLOIDY INDUCED BY COLD SHOCK IN CYPRINID LOACH, *MISGURNUS ANGUILLICAUDATUS. Proc. Asian Fish. Forum* 1:101-104. 1986. FR 34(1)
[Tungkang Mar. Lab. Tungkang, Pingtung, Taiwan 92804]

89-000408 Chen, Shyh-Jyi; Nai-Hsien Chao and I-Chiu Liao. DIPLOID GYNOGENESIS INDUCED BY COLD SHOCK IN CYPRINID LOACH, *MISGURNUS ANGUILLICAUDATUS. Proc. Asian Fish. Forum* 1:105-108. 1986. FR 34(1)
[Tungkang Mar. Lab. Tungkang, Pingtung, Taiwan 92804]

89-000409 Christiansen, Freddy Bugge; Vivi Hunnicke Nielsen and Vibeke Simonsen. GENETICS OF *ZOARCES* POPULATIONS. *Hereditas* 109(1):99-112. 1988. FR 34(1)

GENETICS, VARIATION STUDIES AND HYBRIDIZATION (CONTINUED)

89-000409 CONTINUED
[Dep. Ecol. & Genet., Univ. Aarhus, Ny Munkegade, DK-8000 Arhus C, Denmark] *Z. viviparus.*

89-000410 Disney, Jane E.; Kenneth R. Johnson; Deanna K. Banks and Gary H. Thorgaard. MAINTENANCE OF FOREIGN GENE EXPRESSION AND INDEPENDENT CHROMOSOME FRAGMENTS IN ADULT TRANSGENIC RAINBOW TROUT AND THEIR OFFSPRING. *J. Exp. Zool.* 248(3):335-344. 1988. FR 34(1)
[Dep. Zool., Wash. State Univ., Pullman 99164] *Oncorhynchus mykiss.*

89-000411 Domanevskaya, M. V. EXISTENCE OF LOCAL POPULATIONS OF THE FAMILY SPARIDAE IN GULF OF GUINEA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):105-109. 1988. FR 34(1)
Pagellus coupei, Pagrus ehrenbergi, and *Dentex congoensis.*

89-000412 Dushchenko, V. V. and P. I. Savvatimskiy. INTRASPECIFIC STRUCTURE OF ROCK GRENADIER, *CORYPHAENOIDES RUPESTRIS,* OF THE NORTHERN ATLANTIC: VARIABILITY OF LOCAL GROUPS AND REASONS FOR THEIR FORMATION. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):22-30. 1988. FR 34(1)
[Polar Mar. Fish. & Oceanogr. Res. Inst., PINRO, Murmansk, USSR]

89-000413 Garcia-Vazquez, E.; A. R. Linde, G. Blanco; J. A. Sanchez; E. Vazquez and J. Rubio. CHROMOSOME POLYMORPHISM IN FARM FRY STOCKS OF ATLANTIC SALMON FROM ASTURIAS. *J. Fish Biol.* 33(4):581-587. 1988. FR 34(1)
[Dep. Biol. Funcional, Fac. Med., Univ. Oviedo, C/J. Claveria, 33006-Oviedo, Spain] *Salmo salar* in Spain.

89-000414 Garrett, Gary P. MATERNAL INFLUENCE ON PHENOTYPIC EXPRESSION IN HYBRIDS BETWEEN TWO SPECIES OF *MICROPTERUS. Southwest. Nat.* 33(4):405-411. 1988. FR 34(1)
[Parks & Wildl. Dep., Heart Hills Res. Stn., Ingram, TX 78025] *M. treculi* and *M. dolomieui.*

89-000415 Hartley, S. E. CYTOGENETIC STUDIES OF ATLANTIC SALMON, *SALMO SALAR* L., IN SCOTLAND. *J. Fish. Biol.* 33(5):735-740. 1988. FR 34(1)
[Dep. Biol. Sci., Univ. Stirling, Stirling FK9 4LA, Scotland]

89-000416 Kapuscinski, Anne R. and David P. Philipp. FISHERIES GENETICS: ISSUES AND PRIORITIES FOR RESEARCH AND POLICY DEVELOPMENT. *Fisheries (Bethesda)* 13(6):4-10. 1988. FR 34(1)
[Dep. Fish. & Wildl., Univ. Minn., St. Paul 55108]

89-000417 Keyvanfar, Amine. [A COMPARATIVE STUDY ON THE SERUM AND CELLULAR PROTEINS OF FOUR SPECIES OF ANADROMOUS STURGEONS IN THE CASPIAN SEA. *Ann. Inst. Oceanogr.* 64(1):25-64. 1988. In French with English summ. FR 34(1)
[Inst. Oceanogr., 195, rue Saint-Jacques 75005 Paris, France] *Huso huso, Acipenser guldenstadti, A. nudiventris,* and *A. stellatus.*

89-000418 Koppelman, Jeffrey B.; Gregory S. Whitt and David P. Philipp. THERMAL PREFERENDA OF NORTHERN, FLORIDA, AND RECIPROCAL F_1 HYBRID LARGEMOUTH BASS. *Trans. Am. Fish. Soc.* 117(3):238-244. 1988. FR 34(1)
[Dep. Conserv., Fish & Wildl. Res. Cent., 1110 College Ave., Columbia, MO 65201] *Micropterus salmoides salmoides* and *M. s. floridanus.*

GENETICS, VARIATION STUDIES AND HYBRIDIZATION (CONTINUED)

89-000419 Kotlyar, A. N. INFORMATION ON MORPHOMETRICS AND FEATURES OF COLORATION OF *HELICOLENUS LENGERICHI* NORMAN (SCORPAENIDAE). *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):135-140. 1988. FR 34(1)
[All-Union Sci.-Res. Inst. Mar. Fish. & Oceanogr. - VNIRO, Moscow, USSR]

89-000420 Kurokura, Hisashi; Hidemi Kumai and Motoji Nakamura. HYBRIDIZATION BETWEEN FEMALE RED SEA BREAM (*PAGRUS MAJOR*) AND MALE CRIMSON SEA BREAM (*EVYNNIS JAPONICA*) BY MEANS OF SPERM CRYOPRESERVATION. *Proc. Asian Fish. Forum* 1:113-116. 1986. FR 34(1)
[Fac. Appl. Biol. Sci., Hiroshima Univ., Fukuyama 720, Japan]

89-000421 Larsen, Robert David. LOW LEVELS OF MITOCHONDRIAL-DNA DIVERGENCE IN GREAT LAKES SPECIES OF *COREGONUS* (PISCES: SALMONIDAE). *Ph.D. dissertation, Mich. Technol. Univ.* 54p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1009. 1988. Order No. DA8810791. FR 34(1)
Coregonus artedii, C. hoyi, and *C. clupeaformis.*

89-000422 Lee, Sin-Che and Stephen C. M. Tsoi. ISOZYMIC ANALYSES OF THE SYSTEMATIC RELATIONSHIPS OF SOME CLOSELY RELATED LUTJANID SPECIES FROM TAIWAN (PISCES, LUTJANIDAE). *Zool. Anz.* 220(5/6):245-254. 1988. FR 34(1)
[Lab. Ichthyol., Inst. Zool., Acad. Sinica, Nankang, Taipei 11529, China] *Pristipomoides seiboldii, P. multidens, Etelis radiosus, E. carbunculeus, Paracaesio caeruleus, Symphorus nematophorus, Pterocaesio diagramma, Lutjanus argentimaculatus, L. vitta,* and *L. russellii.*

89-000423 Maceina, Michael J. and Brian R. Murphy. VARIATION IN THE WEIGHT-TO-LENGTH RELATIONSHIP AMONG FLORIDA AND NORTHERN LARGEMOUTH BASS AND THEIR INTRASPECIFIC F_1 HYBRID. *Trans. Am. Fish. Soc.* 117(3):232-237. 1988. FR 34(1)
[S. Fla. Water Manage. Dist., P.O. Box 24680, West Palm Beach 33416] *Micropterus salmoides salmoides* and *M. s. floridanus* in Texas.

89-000424 Moyer, S. P.; D. P. Ma; T. L. Thomas and J. R. Gold. CHARACTERIZATION OF A HIGHLY REPEATED SATELLITE DNA FROM THE CYPRINID FISH *NOTROPIS LUTRENSIS. Comp. Biochem. Physiol. B Comp. Biochem.* 91(4):639-646. 1988. FR 34(1)
[Dep. Wildl. & Fish. Sci. & Biol., Tex. A&M Univ., College Station 77843]

89-000425 Myagkov, N. A. [CONFERENCE: "NEW GENETIC AND NEUROBIOLOGICAL APPROACHES TO PROBLEMS OF CONSERVATION AND REPRODUCTION OF STURGEON AND SALMON IN THE USSR".] *Mar. Biol. (Vladivostok)* 1988(3):70. 1988. In Russian. FR 34(1)

89-000426 Partington, J. D. and C. A. Mills. AN ELECTROPHORETIC AND BIOMETRIC STUDY OF ARCTIC CHARR, *SALVELINUS ALPINUS* (L.), FROM TEN BRITISH LAKES. *J. Fish. Biol.* 33(5):791-814. 1988. FR 34(1)
[Mills: Freshwater Biol. Assoc., Windermere Lab., The Ferry House, Ambleside, Cumbria LA22 0LP, England]

89-000427 Tabata, Kazuo and Shigeaki Gorie. [INDUCTION OF GYNOGENETIC DIPLOIDS IN *PARALICHTHYS OLIVACEUS* BY SUPPRESSION OF THE 1ST CLEAVAGE WITH SPECIAL REFERENCE TO THEIR SURVIVAL AND GROWTH.] *Bull. Jpn. Soc. Sci. Fish.* 54(1):1867-1872. 1988. In Japanese with English summ. FR 34(1)
[Hyogo Prefectural Fish. Exp. Stn., Nakazaki, Akashi, Hyogo 673, Japan]

GENETICS, VARIATION STUDIES AND HYBRIDIZATION (CONTINUED)

89-000428 Taniguchi, Nobuhiko; Shingo Seki; Junji Fukai and Akihiro Kijima. INDUCTION OF TWO TYPES OF GYNOGENETIC DIPLOIDS BY HYDROSTATIC PRESSURE SHOCK AND VERIFICATION BY GENETIC MARKER IN AYU. *Nippon Suisan Gakkaishi* 54(9):1483-1491. 1988. FR 34(1)
[Dep. Cultural Fish., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan] *Plecoglossus altivelis.*

89-000429 Tave, Douglas. GENETICS OF SCALE PATTERN IN COMMON CARP. *Aquacult. Mag.* 14(6):59-61. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Ala. Agric. Exp. Stn., Auburn Univ., Auburn 36849] *Cyprinus carpio.*

89-000430 Tave, Douglas. GENETICS FOR FISH HATCHERY MANAGERS. *AVI Publ. Co., Inc.* 299p. 1986. FR 34(1)
[Dep. Fish. & Allied Aquacult., Agric. Exp. Stn., Auburn Univ., Auburn, AL]

89-000431 Teichert-Coddington, David R. and R. Oneal Smitherman. LACK OF RESPONSE BY *TILAPIA NILOTICA* TO MASS SELECTION FOR RAPID EARLY GROWTH. *Trans. Am. Fish. Soc.* 117(3):297-300. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Ala. Agric. Exp. Stn., Auburn Univ., Auburn 36849]

89-000432 Ueda, Takayoshi; Ryozo Sato and Jindo Kobayashi. TRIPLOID RAINBOW TROUT INDUCED BY HIGH-pH & HIGH-CALCIUM. *Bull. Jpn. Soc. Sci. Fish.* 54(11):2045. 1988. In English. FR 34(1)
[Dep. Biol., Fac. Educ., Utsunomiya Univ., Utsunomiya 321, Japan] *Oncorhynchus mykiss.*

89-000433 Varnavskaya, N. V.; V. S. Varnavskii; I. I. Vetsler and K. Yu. Nepomnyashchii. FEATURES OF SPATIAL GENETIC DIFFERENTIATION OF POPULATIONS OF BLUE-BLACK SALMON (*ONCORHYNCHUS NERKA* WALBAUM) IN LAKES NACHIKI, DVUKHYURTOCHNOE, DAL'NEE AND BLIZHNEE (KAMCHATKA). *Soviet Genet. (Engl. Transl. Genetika)* 24(4):505-512. 1988. FR 34(1)

89-000434 Verspoor, Eric. REDUCED GENETIC VARIABILITY IN FIRST-GENERATION HATCHERY POPULATIONS OF ATLANTIC SALMON *(SALMO SALAR). Can. J. Fish. Aquat. Sci.* 45(10):1686-1690. 1988. In English with French summ. FR 34(1)
[Mar. Lab., P.O. Box 101, Aberdeen AB9 8DB, Scotland]

89-000435 Vitturi, R. KARYOTYPE ANALYSIS AND EVIDENCE FOR ROBERTSONIAN FUSION IN *TRIGLA LUCERNA* L. AND *HELICOLENUS DACTYLOPTERUS* (DELAR.) (PISCES, SCORPAENIFORMES). *Biol. Zentralbl.* 107(5):553-558. 1988. FR 34(1)
[Ist. Zool., Via Archirafi 18, 90123 Palermo, Italy]

89-000436 Yamaha, Etsuro; Makoto Matsuoka and Fumio Yamazaki. INTRODUCTION OF EXOTIC REAGENTS INTO DENUDED EGGS OF GOLDFISH AND CRUCIAN CARP BY ELECTROPORATION. *Bull. Jpn. Soc. Sci. Fish.* 54(11):2043. 1988. In English. FR 34(1)
[Lab. Embryol. & Genet., Fac. Fish., Hokkaido Univ., Hakodate, Hokkaido 041, Japan] *Carassius auratus* and *C. carassius.*

89-000437 Yamano, Keisuke; Etsuro Yamaha and Fumio Yamazaki. INCREASED VIABILITY OF ALLOTRIPLOID PINK SALMON X JAPANESE CHAR HYBRIDS. *Nippon Suisan Gakkaishi* 54(9):1477-1481. 1988. FR 34(1)

GENETICS, VARIATION STUDIES AND HYBRIDIZATION (CONTINUED)

89-000437 CONTINUED
[Lab Embryol. & Genet., Fac. Fish., Hokkaido Univ., Hakodate 041, Japan] *Salvelinus leucomaenis* and *Oncorhynchus gorbuscha*.

89-000438 Zhou Mi; Kang Yang; Li Yucheng and Zhou Tun. [STUDIES ON THE SILVER-STAINED KARYOTYPES OF 7 SPECIES IN SYPRINIDAE (PISCES).] *Zool. Res.* 9(3):225-229. 1988. In Chinese with English summ. FR 34(1)
[Dep. Biol., Wuhan Univ., Wuhan, China] *Elopichthys bambusa, Xenocypris argentea, X. davidi, X. sechuanensis, X. fangi, Plagiognathops microlepis,* and *Paracanthobrama guichenoti*.

89-000439 Zyuganov, V. V. and V. F. Bugayev. ISOLATING MECHANISMS BETWEEN SPAWNING POPULATIONS OF THE THREESPINE STICKLEBACK, *GASTEROSTEUS ACULEATUS*, OF LAKE AZABACH'YE, KAMCHATKA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):131-134. 1988. FR 34(1)
[Inst. Biol. Dev. AN SSSR - IBR, Moscow, USSR]

BEHAVIOR

89-000440 Adams, N. J.; D. R. Barton; R. A. Cunjak; G. Power and S. C. Riley. DIEL PATTERNS OF ACTIVITY AND SUBSTRATE PREFERENCE IN YOUNG ARCTIC CHAR FROM THE KOROC RIVER, NORTHERN QUEBEC. *Can. J. Zool.* 66(11):2500-2502. 1988. In English with French summ. FR 34(1)
[Power: Dep. Biol., Univ. Waterloo, Waterloo, ON, Canada N2L 3G1] *Salvelinus alpinus*.

89-000441 Arai, Mary Needler. INTERACTIONS OF FISH AND PELAGIC COELENTERATES. *Can. J. Zool.* 66(9):1913-1927. 1988. In English with French summ. FR 34(1)
[Dep. Biol. Sci., Univ. Calgary, Calgary, AB, Canada T2N 1N4] *Squalus acanthias* and *Oncorhynchus keta*.

89-000442 Arnbom, Tom and Vassili Papastavrou. FISH IN ASSOCIATION WITH WHALE SHARKS *RHINIODON TYPUS* NEAR THE GALAPAGOS ISLANDS. *Not. Galapagos* No. 46. p. 13-15. 1988. FR 34(1)
[Dep. Zool., Stockholm Univ., S-106 91 Stockholm, Sweden] *Neothunnus macropterus* and *Thunnus atlanticus*.

89-000443 Bakker, Th. C. M. and E. Feuth-de Bruijn. JUVENILE TERRITORIALITY IN STICKLEBACK *GASTEROSTEUS ACULEATUS* L. *Anim. Behav.* 36(5):1556-1558. 1988. FR 34(1)
[Univ. Bern, Ethol. Stn. Hasli, Abteilung Verhaltensokol., Wohlenstr. 50a, CH-3032 Hinterkappelen, Switzerland]

89-000444 Baldridge, H. David. SHARK AGGRESSION AGAINST MAN: BEGINNINGS OF AN UNDERSTANDING. *Calif. Fish Game* 74(4):208-217. 1988. FR 34(1)
[3536 Brookline Dr., Sarasota, FL 34239-4327]

89-000445 Baube, Charles L. MECHANISMS OF REPRODUCTIVE ISOLATION IN TWO SYMPATRIC STICKLEBACK SPECIES. *Proc. Indiana Acad. Sci.* 96:199. 1987. Abstract only. FR 34(1)
[Indiana Univ., Bloomington 47405] *Gasterosteus wheatlandi* and *G. aculeatus*.

BEHAVIOR (CONTINUED)

89-000446 Beacham, Jeffery Louis. SOCIAL DOMINANCE AND FORAGING GROUP MEMBERSHIP IN THE PUMPKINSEED SUNFISH, *LEPOMIS GIBBOSUS*. *Ph.D. dissertation, SUNY, Albany* 91p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1476. 1988. Order No. DA8810304. FR 34(1)

89-000447 Bisazza, Angelo and Andrea Marconato. FEMALE MATE CHOICE, MALE-MALE COMPETITION AND PARENTAL CARE IN THE RIVER BULLHEAD, *COTTUS GOBIO* L. (PISCES, COTTIDAE). *Anim. Behav.* 36(5):1352-1360. 1988. FR 34(1)
[Dip. Psicol. Gen., Univ. Padova, Piazza Capitaniato 3, 35100 Padova, Italy]

89-000448 Bond, Carl E.; Eric Rexstad and Robert M. Hughes. HABITAT USE OF TWENTY-FIVE COMMON SPECIES OF OREGON FRESHWATER FISHES. *Northwest Sci.* 62(5):223-232. 1988. FR 34(1)
[Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331]

89-000449 Bronmark, Christer. EFFECTS OF VERTEBRATE PREDATION ON FRESHWATER GASTROPODS: AN EXCLOSURE EXPERIMENT. *Hydrobiologia* 169(3):363-370. 1988. FR 34(1)
[Dep. Anim. Ecol., Univ. Lund, Ecol. Bldg., S-223 62 Lund, Sweden] *Perca fluviatilis, Rutilus rutilus,* and *Tinca tinca* in Sweden.

89-000450 Burt, Austin; Wayne Hunte and France Dufresne. IDENTIFYING THE TIME SCALE OF TEMPORAL ASSOCIATION. *Can. J. Zool.* 66(9):2090-2092. 1988. In English with French summ. FR 34(1)
[Biol. Dep., McGill Univ., 1205 Ave. Docteur Penfield, Montreal, PQ, Canada H3A 1B1] *Thalassoma bifasciatum.*

89-000451 Butler, Mark J. IV. IN SITU OBSERVATIONS OF BLUEGILL (*LEPOMIS MACROCHIRUS* RAF.) FORAGING BEHAVIOR: THE EFFECTS OF HABITAT COMPLEXITY, GROUP SIZE, AND PREDATORS. *Copeia* 1988(4):939-944. 1988. FR 34(1)
[Dep. Biol. Sci., Fla. State Univ., Tallahassee 32306]

89-000452 Collura, Janet. THE ROLE OF EARLY EXPERIENCE IN HABITAT SELECTION OF THE CONVICT CICHLID, *CICHLASOMA NIGROFASCIATUM* (PISCES: CICHLIDAE). *M.S. thesis, Adelphi Univ.* 178p. 1987. From Masters Abstr. Int. 26(4):397. 1988. Order No. MA1332590. FR 34(1)

89-000453 Davis, Elizabeth A. and Carl D. Hopkins. BEHAVIOURAL ANALYSIS OF ELECTRIC SIGNAL LOCALIZATION IN THE ELECTRIC FISH, *GYMNOTUS CARAPO* (GYMNOTIFORMES). *Anim. Behav.* 36(6):1658-1671. 1988. FR 34(1)
[Hopkins: Sect. Neurobiol. & Behav., Cornell Univ., Seeley G, Mudd Hall, Ithaca, NY 14853]

89-000454 De Silva, S. S. and H. K. G. Sirisena. OBSERVATIONS ON THE NESTING HABITS OF *OREOCHROMIS MOSSAMBICUS* (PETERS) (PISCES: CICHLIDAE) IN SRI LANKAN RESERVOIRS. *J. Fish. Biol.* 33(5):689-696. 1988. FR 34(1)
[Dep. Zool. & Fish. Biol., Univ. Ruhuna, Matara, Sri Lanka]

89-000455 Dodson, Julian J. THE NATURE AND ROLE OF LEARNING IN THE ORIENTATION AND MIGRATORY BEHAVIOR OF FISHES. *Environ. Biol. Fishes* 23(3):161-182. 1988. FR 34(1)
[Dep. Biol., Univ. Laval, PQ, Canada G1K 7P4]

BEHAVIOR (CONTINUED)

89-000456 Englert, Thomas L. and David Sugarman. PATTERNS OF MOVEMENT OF STRIPED BASS AND WHITE PERCH LARVAE IN THE HUDSON RIVER ESTUARY. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 148-168. 1988. FR 34(1).
[LMS One Blue Hill Plaza, Pearl River, NY 10965] *Morone saxatilis* and *M. americana* in New York.

89-000457 Francis, Richard C. SOCIALLY MEDIATED VARIATION IN GROWTH RATE OF THE MIDAS CICHLID: THE PRIMACY OF EARLY SIZE DIFFERENCES. *Anim. Behav.* 36(6):1844-1845. 1988. FR 34(1)
[Dep. Zool., Univ. Calif., Berkeley 94720] *Cichlasoma citrinellum.*

89-000458 Garrity, Stephen D.; Sally C. Levings and Hugh M. Caffey. SPATIAL AND TEMPORAL VARIATION IN SHELL CRUSHING BY FISHES ON ROCKY SHORES OF PACIFIC PANAMA. *J. Exp. Mar. Biol. Ecol.* 103(1-3):131-142. 1986. FR 34(1)
[Dep. Zool., Univ. Rhode Island, Kingston 02881]

89-000459 Go, You-Bong. DIET AND FEEDING CHRONOLOGY OF MESOPELAGIC MICRONEKTONIC FISH, *DIAPHUS SUBORBITALIS*, IN SURUGA BAY, JAPAN. *Proc. Asian Fish. Forum* 1:569-572. 1986. FR 34(1)
[Dep. Oceanogr., Cheju Natl. Univ., Cheju-do, Korea]

89-000460 Godin, Jean-Guy J. and Cathryn D. Sproul. RISK TAKING IN PARASITIZED STICKLEBACKS UNDER THREAT OF PREDATION: EFFECTS OF ENERGETIC NEED AND FOOD AVAILABILITY. *Can. J. Zool.* 66(11):2360-2367. 1988. In English with French summ. FR 34(1)
[Dep. Biol., Mt. Allison Univ., Sackville, NB, Canada E0A 3C0] *Gasterosteus aculeatus.*

89-000461 Hayes, Daniel Brian. DISTRIBUTION, DIET, AND GROWTH OF TWO COEXISTING POPULATIONS OF YELLOW PERCH *(PERCA FLAVESCENS)* AND WHITE SUCKER *(CATOSTOMUS COMMERSONI). M.S. thesis, Mich. State Univ.* 143p. 1988. From Masters Abstr. Int. 26(4):401. 1988. Order No. MA1333340. FR 34(1)

89-000462 Heggberget, Tor G.; Lars P. Hansen and Tor F. Naesje. WITHIN-RIVER SPAWNING MIGRATION OF ATLANTIC SALMON *(SALMO SALAR). Can. J. Fish. Aquat. Sci.* 45(10):1691-1698. 1988. In English with French summ. FR 34(1)
[Dir. Nat. Manage., Fish Res. Div., Tungasletta 2, N-7004 Trondheim, Norway]

89-000463 Heggenes, Jan and Tor Traaen. DAYLIGHT RESPONSES TO OVERHEAD COVER IN STREAM CHANNELS FOR FRY OF FOUR SALMONID SPECIES. *Holanct.* 11(3):194-201. 1988. FR 34(1)
[Dep. Nat. Conserv., Agric. Univ. Norway, Box 39, 1432 As-NLH, Norway] *Salmo trutta, S. salar, Salvelius fontinalis,* and *S. namaycush.*

89-000464 Hjorth, Douglas A. FEEDING SELECTION OF LARVAL STRIPED BASS AND WHITE PERCH IN THE PEEKSKILL REGION OF THE HUDSON RIVER. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 134-147. 1988. FR 34(1)
[Chas. T. Main, Inc., Prudential Cent., Boston, MA 02199] *Morone saxatilis* and *M. americana* in New York.

BEHAVIOR (CONTINUED)

89-000465 Horn, Michael H.; Margaret A. Neighbors and Steven N. Murray. HERBIVORE RESPONSES TO A SEASONALLY FLUCTUATING FOOD SUPPLY: GROWTH POTENTIAL OF TWO TEMPERATE INTERTIDAL FISHES BASED ON THE PROTEIN AND ENERGY ASSIMILATED FROM THEIR MACROALGAL DIETS. *J. Exp. Mar. Biol. Ecol.* 103(1-3):217-234. 1986. FR 34(1)
[Dep. Biol. Sci., Calif. State Univ., Fullerton 92634] *Cebidichthys violaceus* and *Xiphister mucosus*.

89-000466 Hourigan, Thomas F. THE BEHAVIORAL ECOLOGY OF THREE SPECIES OF BUTTERFLY FISHES (FAMILY CHAETODONTIDAE). *Ph.D. dissertation, Univ. Hawaii* 513p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):999. 1988. Order No. DA8812140. FR 34(1)
Chaetodon multicinctus, C. quadrimaculatus, and *C. frembllí* in Hawaii.

89-000467 Hoyle, James A. and Allen Keast. PREY HANDLING TIME IN TWO PISCIVORES, *ESOX AMERICANUS VERMICULATUS* AND *MICROPTERUS SALMOIDES*, WITH CONTRASTING MOUTH MORPHOLOGIES. *Can. J. Zool.* 66(2):540-542. 1988. In English with French summ. FR 34(1)
[Minist. Nat. Resour., R.R. 2, Sharbot Lake, ON, Canada K0H 2P0]

89-000468 Johnson, William S. and Peter Ruben. CLEANING BEHAVIOR OF *BODIANUS RUFUS, THALASSOMA BIFASCIATUM, GOBIOSOMA EVELYNAE,* AND *PERICLIMENES PEDERSONI* ALONG A DEPTH GRADIENT AT SALT RIVER SUBMARINE CANYON, ST. CROIX. *Environ. Biol. Fishes* 23(3):225-232. 1988. FR 34(1)
[Biol. Sci., Goucher Coll., Towson, MD 21204]

89-000469 Jones, G. P. EXPERIMENTAL EVALUATION OF THE EFFECTS OF HABITAT STRUCTURE AND COMPETITIVE INTERACTIONS ON THE JUVENILES OF TWO CORAL REEF FISHES. *J. Exp. Mar. Biol. Ecol.* 123(2):115-126. 1988. FR 34(1)
[Dep. Zool., Univ. Auckland, Private Bag, Auckland, New Zealand] *Dascyllus aruanus* and *Pomacentrus amboinensis* in Australia.

89-000470 Ju Hee Lee; Mal Gu Youm and Sam Kon Kim. [FUNDAMENTAL STUDY ON THE MIGRATING COURSE OF FISH AROUND THE SET NET. THE BOTTOM CONTOUR AND THE TIDAL CURRENT AROUND SET NET.] *Bull. Korean Fish. Technol.* 24(1):12-16. 1988. In Korean. From Korean Sci. Abstr. 20(5):88/982. 1988. FR 34(1)

89-000471 Kats, Lee B.; James W. Petranka and Andrew Sih. ANTIPREDATOR DEFENSES AND THE PERSISTENCE OF AMPHIBIAN LARVAE WITH FISHES. *Ecology* 69(6):1865-1870. 1988. FR 34(1)
[Behav. & Evol. Ecol. Res. Group, T.H. Morgan School Biol. Sci., Univ. Ky., Lexington 40506-0225]

89-000472 Keenleyside, Miles H. A. and Helene M. C. Dupuis. COMPARISON OF DIGGING BEHAVIOR BY FEMALE PINK SALMON *(ONCORHYNCHUS GORBUSCHA)* BEFORE AND AFTER SPAWNING. *Copeia* 1988(4):1092-1095. 1988. FR 34(1)
[Dep. Zool., Univ. West. Ontario, London, ON, Canada N6A 5B7]

89-000473 Klimley, A. P. and S. B. Butler. IMMIGRATION AND EMIGRATION OF A PELAGIC FISH ASSEMBLAGE TO SEAMOUNTS IN THE GULF OF CALIFORNIA RELATED TO WATER MASS MOVEMENTS USING SATELLITE IMAGERY. *Mar. Ecol. Prog. Ser.* 49(1/2):11-20. 1988. FR 34(1)
[Bodega Mar. Lab., Univ. Calif., P.O. Box 247, Bodega Bay 94923] Data for 13 species.

BEHAVIOR (CONTINUED)

89-000474 Kneib, R. T. TESTING FOR INDIRECT EFFECTS OF PREDATION IN AN INTERTIDAL SOFT-BOTTOM COMMUNITY. *Ecology* 69(6):1795-1805. 1988. FR 34(1)
[Univ. Ga., Mar. Inst., Sapelo Island 31327] *Fundulus heteroclitus* in Georgia.

89-000475 Ladich, Friedrich and Andreas Tadler. SOUND PRODUCTION IN *POLYPTERUS* (OSTEICHTHYES: POLYPTERIDAE). *Copeia* 1988(4):1076-1077. 1988. FR 34(1)
[Inst. Zool., Univ. Vienna, Althanstr. 14, A-1090 Vienna, Austria] *P. senegalus* and *P. retropinnis*.

89-000476 Lindberg, Joan Carole. FEEDING PREFERENCES AND BEHAVIOR OF LARVAL AND JUVENILE WHITE STURGEON, *ACIPENSER TRANSMONTANUS*. *Ph.D dissertation, Univ. Calif., Davis* 68p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2006. 1988. Order No. DA8814310. FR 34(1)

89-000477 Luczkovich, Joseph J. THE ROLE OF PREY DETECTION IN THE SELECTION OF PREY BY PINFISH *LAGODON RHOMBOIDES* (LINNAEUS). *J. Exp. Mar. Biol. Ecol.* 123(1):15-30. 1988. FR 34(1)
[Harbor Branch Inst., 5600 Old Dixie Hwy., Fort Pierce, FL 34946]

89-000478 Magnhagen, Carin. CHANGES IN FORAGING AS A RESPONSE TO PREDATION RISK IN TWO GOBIID FISH SPECIES, *POMATOSCHISTUS MINUTUS* AND *GOBIUS NIGER*. *Mar. Ecol. Prog. Ser.* 49(1/2):21-26. 1988. FR 34(1)
[Dep. Zool., Uppsala Univ., Box 561, S-751 22 Uppsala, Sweden]

89-000479 Markevich, A. I. NATURE OF TERRITORIES AND HOMING IN THE EASTERN SEA-PERCH, *SEBASTES TACZANOWSKI*. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):161-163. 1988. FR 34(1)
[Inst. Biol. Sea, Far East Sci. Cent. AN SSSR - IBM DVNTs, Vladivostok, USSR]

89-000480 McDowall, Bob. MOON AFFECTS FISH BEHAVIOUR. *Freshwater Catch* No. 38. p. 18. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand] *Anguilla* spp., *Leuresthes tenuis, Hypomesus pretiosus, Galaxias maculatus, Fundulus heteroclitus,* and *Menidia menidia*.

89-000481 McLennan, D. A.; Daniel R. Brooks and J. D. McPhail. THE BENEFITS OF COMMUNICATION BETWEEN COMPARATIVE ETHOLOGY AND PHYLOGENETIC SYSTEMATICS: A CASE STUDY USING GASTEROSTEID FISHES. *Can. J. Zool.* 66(10):2177-2190. 1988. In English with French summ. FR 34(1)
[Brooks: Dep. Zool., Univ. Toronto, Toronto, ON, Canada M5S 1A1]

89-000482 Milinski, Manfred. GAMES FISH PLAY: MAKING DECISIONS AS A SOCIAL FORAGER. *Trends Ecol. Evol.* 3(12):325-330. 1988. FR 34(1)
[Abteilung Verhaltensokol. Zool. Inst. Univ. Bern, Wohlenstr. 50a, CH-3032 Hinterkappelen, Switzerland] *Gasterosteus aculeatus*.

89-000483 Mochek, A. D. SHELTERS AND AVAILABILITY OF FOOD TO COASTAL FISH. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):114-116. 1988. FR 34(1)
[Inst. Evol. Morphol. & Anim. Ecol., Acad. Sci. USSR - IBMEZH, Moscow, USSR] *Symphodus ocellatus* and *Trachurus mediterraneus ponticus*.

BEHAVIOR (CONTINUED)

89-000484 Morgan, M. Joanne. THE INFLUENCE OF HUNGER, SHOAL SIZE AND PREDATOR PRESENCE ON FORAGING IN BLUNTNOSE MINNOWS. *Anim. Behav.* 36(5):1317-1322. 1988. FR 34(1)
[Northwest Atl. Fish. Cent., P.O. Box 5667, St. John's, NF, Canada A1C 5X1] *Pimephales notatus.*

89-000485 Naismith, I. A. and B. Knights. MIGRATIONS OF ELVERS AND JUVENILE EUROPEAN EELS, *ANGUILLA ANGUILLA* L., IN THE RIVER THAMES. *J. Fish Biol.* 33(Suppl. A):161-175. 1988. FR 34(1)
[Appl. Ecol. Res. Group, Polytech. Cent. London, London W1M 8JS, England]

89-000486 Pavlov, D. S. and A. O. Kasumyan. STUDIES ON FISH BEHAVIOR AND SENSORY RECEPTION IN THE USSR. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):1-9. 1988. FR 34(1)

89-000487 Polunin, N. V. C. EFFICIENT UPTAKE OF ALGAL PRODUCTION BY A SINGLE RESIDENT HERBIVOROUS FISH ON THE REEF. *J. Exp. Mar. Biol. Ecol.* 123(1):61-76. 1988. FR 34(1)
[Biol., The Univ., Newcastle upon Tyne NE1 7RU, England] *Plectroglyphidodon lacrymatus* in Papua New Guinea.

89-000488 Quinn, Thomas P. ESTIMATED SWIMMING SPEEDS OF MIGRATING ADULT SOCKEYE SALMON. *Can. J. Zool.* 66(10):2160-2163. 1988. In English with French summ. FR 34(1)
[Fish. Res. Inst., School Fish. WH-10, Univ. Wash., Seattle 98195] *Oncorhynchus nerka* in Canada.

89-000489 Reimchen, T. E. INEFFICIENT PREDATORS AND PREY INJURIES IN A POPULATION OF GIANT STICKLEBACK. *Can. J. Zool.* 66(9):2036-2044. 1988. In English with French summ. FR 34(1)
[Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9] *Gasterosteus aculeatus* in Canada.

89-000490 Ridgway, Mark S. DEVELOPMENTAL STAGE OF OFFSPRING AND BROOD DEFENSE IN SMALLMOUTH BASS (*MICROPTERUS DOLOMIEUI*). *Can. J. Zool.* 66(8):1722-1728. 1988. In English with French summ. FR 34(1)
[Glenora Fish., R.R. No. 4, Picton, ON, Canada K0K 2T0]

89-000491 Rogers, William. PARENTAL INVESTMENT AND DIVISION OF LABOR IN THE MIDAS CICHLID (*CICHLASOMA CITRINELLUM*). *Ethology* 79(2):126-142. 1988. FR 34(1)
[Dep. Zool., Univ. Calif., Berkeley 94170]

89-000492 Rowland, William J. AGGRESSION VERSUS COURTSHIP IN STICKLEBACKS: THE ROLE OF HABITUATION. *Proc. Indiana Acad. Sci.* 96:202. 1987. Abstract only. FR 34(1)
[Dep. Biol., Indiana Univ., Bloomington 47405] *Gasterosteus aculeatus.*

89-000493 Satterthwaite, Thomas D. INFLUENCE OF MATURITY ON STRAYING RATES OF SUMMER STEELHEAD INTO THE ROGUE RIVER, OREGON. *Calif. Fish Game* 74(4):203-207. 1988. FR 34(1)
[Dep. Fish & Wildl., 850 SW 15th St., Corvallis, OR 97333] *Oncorhynchus mykiss.*

BEHAVIOR (CONTINUED)

89-000494 Schmidt, Robert E.; Ronald J. Klauda and John M. Bartels. DISTRIBUTIONS AND MOVEMENTS OF THE EARLY LIFE STAGES OF THREE SPECIES OF *ALOSA* IN THE HUDSON RIVER, WITH COMMENTS ON MECHANISMS TO REDUCE INTERSPECIFIC COMPETITION. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 193-215. 1988. FR 34(1)
[Hudsonia, Ltd., Box 96, Bard Coll., Annandale, NY 12504] *A. aestivalis, A. sapidissima,* and *A. pseudoharengus* in New York.

89-000495 Smith, Roger S. and F. G. Whoriskey, Jr. MULTIPLE CLUTCHES: FEMALE THREESPINE STICKLEBACKS LOSE THE ABILITY TO RECOGNIZE THEIR OWN EGGS. *Anim. Behav.* 36(6):1838-1839. 1988. FR 34(1)
[Dep. Renewable Resour., Macdonald Coll. McGill Univ., 21, 111 Lakeshore Rd., Ste-Anne-de-Bellevue, PQ, Canada H9X 1C0] *Gasterosteus aculeatus.*

89-000496 Tosi, L.; L. Sala; C. Sola; A. Spampanato and P. Tongiorgi. EXPERIMENTAL ANALYSIS OF THE THERMAL AND SALINITY PREFERENCES OF GLASS-EELS, *ANGUILLA ANGUILLA* (L.), BEFORE AND DURING THE UPSTREAM MIGRATION. *J. Fish. Biol.* 33(5):721-733. 1988. FR 34(1)
[Dip. Biol. Anim, Univ. Modena, Via Universita 4, I-41100 Modena, Italy]

89-000497 Vinogradova, V. M. and Yu. B. Manteyfel'. OLFACTORY STIMULI AND NATURAL FOOD STIMULUS, DETERMINED ON THE BASIS OF THE CONDITIONED REFLEX FOOD REACTION. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):117-121. 1988. FR 34(1)
[Inst. Evol. Morphol. & Anim. Ecol., Acad. Sci. USSR - IBMEZH, Moscow, USSR] *Phoxinus phoxinus, Carassius carassius, C. auratus,* and *Poecilia reticulata.*

89-000498 Wilkins, Mark E. RESULTS OF AN INVESTIGATION OF WIDOW ROCKFISH *SEBASTES ENTOMELAS* BEHAVIOR. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:43-47. 1987. FR 34(1)
[Northwest & Alaska Fish. Cent., Resour. Assessment & Conserv. Eng., NMFS, NOAA, Seattle, WA 98115-0070]

89-000499 Zhang, Chang Ik. FOOD HABITS AND ECOLOGICAL INTERACTIONS OF ALASKA PLAICE, *PLEURONECTES QUADRITUBERCULATUS,* WITH OTHER FLATFISH SPECIES IN THE EASTERN BERING SEA. *Bull. Korean Fish. Soc.* 21(3):150-160. 1988. In English. FR 34(1)
[Korea Ocean Res. & Dev. Inst., Ansan P.O. Box 29, Seoul 425-600, Korea] *Limanda aspera* and *Lepidopsetta bilineata.*

LIFE HISTORY-GENERAL WORKS

89-000500 Albikovskaya, L. K. SOME ASPECTS OF THE BIOLOGY AND DISTRIBUTION OF GLACIER LANTERNFISH *(BENTHOSEMA GLACIALE)* OVER THE SLOPES OF FLEMISH CAP AND EASTERN GRAND BANK. *Northwest Atl. Fish. Org. Sci. Counc. Stud.* No. 12. p. 37-42. 1988. FR 34(1)
[Polar Res. Inst. Mar. Fish. & Oceanogr. (PINRO), 6 Knipovich St., Murmansk, 183763, USSR]

89-000501 Aprahamian, M. W. THE BIOLOGY OF THE TWAITE SHAD, *ALOSA FALLAX FALLAX* (LACEPEDE), IN THE SEVERN ESTUARY. *J. Fish Biol.* 33(Suppl. A):141-152. 1988. FR 34(1)
[Fish. Tech. Unit, Welsh Water Auth., Llandegfedd Reservoir, Sluvad Rd., Pontypool, Gwent NP4 0TA, Wales]

LIFE HISTORY-GENERAL WORKS (CONTINUED)

89-000502 Bagarinao, Teodora and Thia-Eng Chua. EGG SIZE AND LARVAL SIZE AMONG TELEOSTS: IMPLICATIONS TO SURVIVAL POTENTIAL. *Proc. Asian Fish. Forum* 1:651-656. 1986. FR 34(1)
[SEAFDEC, Aquacult. Dep., P.O. Box 256, Iloilo City, Philippines]

89-000503 Balcer, Mary Delores. ECOLOGY OF THE CRUSTACEAN ZOOPLANKTON AND YOUNG-OF-THE-YEAR RAINBOW SMELT POPULATIONS OF WESTERN LAKE SUPERIOR. *Ph.D. dissertation, Univ. Wis.* 109p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1500-1501. 1988. Order No. DA8805405. FR 34(1)
Osmerus mordax.

89-000504 Bell, Michael A. STICKLEBACK FISHES: BRIDGING THE GAP BETWEEN POPULATION BIOLOGY AND PALEOBIOLOGY. *Trends Ecol. Evol.* 3(12):320-324. 1988. FR 34(1)
[Dep. Ecol. & Evol., SUNY, Stony Brook, NY 11794] *Gasterosteus aculeatus.*

89-000505 Bisson, Peter A.; Kathleen Sullivan and Jennifer L. Nielsen. CHANNEL HYDRAULICS, HABITAT USE, AND BODY FORM OF JUVENILE COHO SALMON, STEELHEAD, AND CUTTHROAT TROUT IN STREAMS. *Trans. Am. Fish. Soc.* 117(3):262-273. 1988. FR 34(1)
[Weyerhaeuser Co., Technol. Cent., Tacoma, WA 98477] *Oncorhynchus kisutch, O. mykiss,* and *O. clarki* in Washington.

89-000506 Brown, Larry Richard. FACTORS DETERMINING THE DISTRIBUTION OF THREE SPECIES OF SCULPIN (*COTTUS*) FROM THE PIT RIVER DRAINAGE, CALIFORNIA. *Ph.D. dissertation, Univ. Calif., Davis* 134p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2038. 1988. Order No. DA8814291. FR 34(1)
C. pitensis, C. klamathensis macrops, and *C. asperrimus.*

89-000507 Burr, Brooks M. and Melvin L. Warren, Jr. NESTS, EGGS, AND LARVAE OF THE OZARK SCULPIN, *COTTUS HYPSELURUS. Copeia* 1988(4):1089-1092. 1988. FR 34(1)
[Dep. Zool., South. Ill. Univ., Carbondale 62901]

89-000508 Chan, E. H. and H. C. Liew. CHARACTERISTICS OF AN EXPLOITED TROPICAL SHALLOW-WATER DEMERSAL FISH COMMUNITY IN MALAYSIA. *Proc. Asian Fish. Forum* 1:349-352. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, 43400 UPM Serdang, Malaysia]

89-000509 Dowling, David Clark. POPULATION DYNAMICS OF, AND HABITAT UTILIZATION BY, YOUNG-OF-THE-YEAR ROCK BASS (*AMBLOPLITES RUPESTRIS*) AND SMALLMOUTH BASS (*MICROPTERUS DOLOMIEUI*) IN A WARM-WATER STREAM. *M.S. thesis, Mich. State Univ.* 107p. 1987. From Masters Abstr. Int. 26(4):400. 1988. Order No. MA1332673. FR 34(1)

89-000510 Evans, D. O.; J. J. Houston and G. N. Meredith. STATUS OF THE LAKE SIMCOE WHITEFISH, *COREGONUS CLUPEAFORMIS,* IN CANADA. *Can. Field-Nat.* 102(1):103-113. 1988. In English with French summ. FR 34(1)
[Minist. Nat. Resour., Res. Sect., Fish. Branch, Box 50, Maple, ON, Canada L0J 1E0]

LIFE HISTORY-GENERAL WORKS (CONTINUED)

89-000511 Fernandez-Delgado, C.; J. A. Hernando; M. Herrera and M. Bellido. AGE, GROWTH AND REPRODUCTION OF *APHANIUS IBERUS* (CUV. & Val., 1846) IN THE LOWER REACHES OF THE GUADALQUIVIR RIVER (SOUTH-WEST SPAIN). *Freshwater Biol.* 20(2):227-234. 1988. FR 34(1)
[Zool. Sect., Dep. Anim. Biol., Sci. Fac. Univ. Cordoba, San Alberto Magno Ave., 14004 Cordoba, Spain]

89-000512 Hatch, Jay T. and James C. Underhill. ABUNDANCE, DISTRIBUTION, GROWTH, AND MORTALITY OF LARVAL LAKE HERRING IN WESTERN LAKE SUPERIOR. *Am. Fish. Soc. Symp.* 5:96-103. 1988. FR 34(1)
[General Coll., Univ. Minn., Minneapolis 55455] *Coregonus artedii.*

89-000513 Hoff, Thomas B.; Ronald J. Klauda and John R. Young. CONTRIBUTION TO THE BIOLOGY OF SHORTNOSE STURGEON IN THE HUDSON RIVER ESTUARY. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 171-189. 1988. FR 34(1)
[Southeast. Mass. Univ., North Dartmouth 02747] *Acipenser brevirostrum* in New York.

89-000514 Hoyt, Robert D., editor. 11th ANNUAL LARVAL FISH CONFERENCE. *Am. Fish. Soc. Symp.* 5:130p. 1988. Available from Am. Fish. Soc., 5410 Grosvenor Ln., Suite 110, Bethesda, MD 20814. FR 34(1)
Selected papers indexed in this issue of *Fisheries Review.*

89-000515 Johnson, Barry L.; David L. Smith and Robert F. Carline. HABITAT PREFERENCES, SURVIVAL, GROWTH, FOODS, AND HARVESTS OF WALLEYES AND WALLEYE X SAUGER HYBRIDS. *N. Am. J. Fish. Manage.* 8(3):292-304. 1988. FR 34(1)
[Cent. Limnol., Univ. Wis., Madison 53706] *Stizostedion vitreum* and *S. canadense* in Ohio.

89-000516 Jonklaas, Rodney. IN PRAISE OF ARCHERFISH. *Trop. Fish Hobbyist* 37(3):30, 33-35. 1988. FR 34(1)
Toxotes jaculator.

89-000517 Jonsson, Nina; Bror Jonsson and Jan Ruud-Hansen. DOWNSTREAM DISPLACEMENT AND LIFE-HISTORY TRAITS OF WHITEFISH, *COREGONUS LAVARETUS*, IN A NORWEGIAN RIVER. *Environ. Biol. Fishes* 23(3):197-204. 1988. FR 34(1)
[Dir. Nat. Manage., Fish Res. Div., Tungasletta 2, N-7004 Trondheim, Norway]

89-000518 Kempinger, James J. SPAWNING AND EARLY LIFE HISTORY OF LAKE STURGEON IN THE LAKE WINNEBAGO SYSTEM, WISCONSIN. *Am. Fish. Soc. Symp.* 5:110-122. 1988. FR 34(1)
[Dep. Nat. Resour., Oshkosh, WI 54901] *Acipenser fulvescens.*

89-000519 Klauda, Ronald J.; Richard E. Moos and Robert E. Schmidt. LIFE HISTORY OF ATLANTIC TOMCOD, *MICROGADUS TOMCOD*, IN THE HUDSON RIVER ESTUARY, WITH EMPHASIS ON SPATIO-TEMPORAL DISTRIBUTION AND MOVEMENTS. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 219-251. 1988. FR 34(1)
[Johns Hopkins Univ., Appl. Physics Lab., Shady Side, MD 20764]

89-000520 Lancraft, Thomas M.; Thomas L. Hopkins and Joseph J. Torres. ASPECTS OF THE ECOLOGY OF THE MESOPELAGIC FISH *GONOSTOMA ELONGATUM* (GONOSTOMATIDAE, STOMIIFORMES) IN THE EASTERN GULF OF MEXICO. *Mar. Ecol. Prog. Ser.* 49(1/2):27-40. 1988. FR 34(1)
[Dep. Mar. Sci., Univ. S. Fla., 140 7th Ave. S., St. Petersburg 33701]

LIFE HISTORY-GENERAL WORKS (CONTINUED)

89-000521 Marchand, J. and G. Masson. INSHORE MIGRATION, DISTRIBUTION, BEHAVIOUR AND FEEDING ACTIVITY OF SOLE, *SOLEA SOLEA* (L.), POSTLARVAE IN THE VILAINE ESTUARY, FRANCE. *J. Fish Biol.* 33(Suppl. A):227-228. 1988. FR 34(1)
[Lab. Biol. Mar., Univ. Nantes, 2 rue Houssiniere, 44072-Nantes Cedex 03, France]

89-000522 Marchand, J. SEASONAL DISTRIBUTION, GROWTH AND ECOLOGICAL ROLE OF THE JUVENILE SOLE, *SOLEA SOLEA* L., POPULATION IN THE LOIRE ESTUARY, FRANCE. *J. Fish Biol.* 33(Suppl. A):229. 1988. FR 34(1)
[Lab. Biol. Mar., Univ. Nantes, 2 rue Houssiniere, 44072-Nantes Cedex 03, France]

89-000523 Margaritis, Anargyros. SEA SERPENTS IN YOUR HOME. *Trop. Fish Hobbyist* 37(3):84-87. 1988. FR 34(1)
Echidna nebulosa.

89-000524 Martinez-Palacios, Carlos Antonio. ASPECTS OF THE BIOLOGY OF *CICHLASOMA UROPHTHALMUS* (GUNTHER) WITH PARTICULAR REFERENCE TO ITS CULTURE. *Ph.D. dissertation, Univ. Stirling (United Kingdom)* 425p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1484. 1988. Order No. BRD81269. FR 34(1)

89-000525 Mills, C. A. THE EFFECT OF EXTREME NORTHERLY CLIMATIC CONDITIONS ON THE LIFE HISTORY OF THE MINNOW, *PHOXINUS PHOXINUS* (L.). *J. Fish Biol.* 33(4):545-561. 1988. FR 34(1)
[Freshwater Biol. Assoc., Windermere Lab., Ferry House, Ambleside, Cumbria LA22 0LP, England]

89-000526 Mongeau, J.-R.; P. Dumont; L. Cloutier and A.-M. Clement. [STATUS OF THE COPPER REDHORSE, *MOXOSTOMA HUBBSI*, IN CANADA.] *Can. Field-Nat.* 102(1):132-139. 1988. In French with English summ. FR 34(1)
[Serv. Amenage. & Exploit. Faune, Minist. Loisir, Chasse & Peche, 6255 13e Ave., Montreal, PQ, Canada H1X 3E6]

89-000527 Moore, Kelly M. S. and Stanley V. Gregory. SUMMER HABITAT UTILIZATION AND ECOLOGY OF CUTTHROAT TROUT FRY (*SALMO CLARKI*) IN CASCADE MOUNTAIN STREAMS. *Can. J. Fish. Aquat. Sci.* 45(11):1921-1930. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331]

89-000528 Moser, H. Geoffrey and John L. Butler. DESCRIPTIONS OF REARED LARVAE OF SIX SPECIES OF *SEBASTES*. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:19-29. 1987. FR 34(1)
[Southwest Fish. Cent., NMFS, NOAA, La Jolla, CA 92038] *S. entomelas, S. serranoides, S. rubrivinctus, S. rufus, S. ovalis,* and *S. constellatus* in California.

89-000529 Naiman, Robert J.; Stephen D. McCormick; W. Linn Montgomery and Roderick Morin. ANADROMOUS BROOK CHARR, *SALVELINUS FONTINALIS*: OPPORTUNITIES AND CONSTRAINTS FOR POPULATION ENHANCEMENT. *Mar. Fish. Rev.* 49(4):1-13. 1987. FR 34(1)
[Cent. Water & Environ., Nat. Resour. Res. Inst., Univ. Minn., Duluth 55811]

LIFE HISTORY-GENERAL WORKS (CONTINUED)

89-000530 Nelson, Russell Steven. A STUDY OF THE LIFE HISTORY, ECOLOGY, AND POPULATION DYNAMICS OF FOUR SYMPATRIC REEF PREDATORS (*RHOMBOPLITES AURORUBENS, LUTJANUS CAMPECHANUS,* LUTJANIDAE; *HAEMULON MELANURUM,* HAEMULIDAE; AND *PAGRUS PAGRUS,* SPARIDAE) ON THE EAST AND WEST FLOWER GARDEN BANKS, NORTHWESTERN GULF OF MEXICO. *Ph.D. dissertation, N.C. State Univ.* 205p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2083. 1988. Order No. DA8815525. FR 34(1)

89-000531 Radtke, Richard L.; Robert A. Kinzie III and Scott D. Folsom. AGE AT RECRUITMENT OF HAWAIIAN FRESHWATER GOBIES. *Environ. Biol. Fishes* 23(3):205-213. 1988. FR 34(1)
[Oceanic Biol., Hawaii Inst. Geophysics, Univ. Hawaii, Honolulu 96822] *Stenogobius genivittatus* and *Awaous stamineus.*

89-000532 Rakocinski, Chet. POPULATION STRUCTURE OF STREAM-DWELLING DARTERS: CORRESPONDENCE WITH HABITAT STRUCTURE. *Environ. Biol. Fishes* 23(3):215-224. 1988. FR 34(1)
[Freshwater Biol. Res. Program, Dep. Biol., Univ. Miss., University 38677] *Percina sciera* and *P. nigrofasciata* in Mississippi.

89-000533 Reinthal, Peter Nicholson. MORPHOLOGY, ECOLOGY, AND BEHAVIOR OF A GROUP OF THE ROCK-DWELLING CICHLID FISHES (CICHLIDAE: PERCIFORMES) FROM LAKE MALAWI, AFRICA. *Ph.D. dissertation, Duke Univ.* 321p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1054. 1988. Order No. DA8810881. FR 34(1)

89-000534 Richter, Hans-Joachim. *PYRRHULINA VITTATA,* THE BANDED PYRRHULINA. *Trop. Fish Hobbyist* 37(3):22-26. 1988. FR 34(1)

89-000535 Sabriye, A. S.; P. J. Reay and S. H. Coombs. SEA-BASS LARVAE IN COASTAL AND ESTUARINE PLANKTON. *J. Fish Biol.* 33(Suppl. A):231-233. 1988. FR 34(1)
[Reay: Dep. Biol. Sci., Plymouth Polytech., Plymouth PL4 8AA, England] *Dicentrarchus labrax* in England.

89-000536 Sandlund, Odd Terje; Hilmar J. Malmquist; Bror Jonsson; Skuli Skulason; Sigurdur S. Snorrason; Petur M. Jonasson; Rolf Gydemo and Torfinn Lindem. DENSITY, LENGTH DISTRIBUTION, AND DIET OF AGE-0 ARCTIC CHARR *SALVELINUS ALPINUS* IN THE SURF ZONE OF THINGVALLAVATN, ICELAND. *Environ. Biol. Fishes* 23(3):183-195. 1988. FR 34(1)
[Norwegian Soc. Rural Dev., P.O. Box 115, N-2013 Skjetten, Norway]

89-000537 Shreshtha, Tej Kumar. SPAWNING ECOLOGY AND BEHAVIOR OF THE MAHSEER *TOR PUTITORA* (HAMILTON) IN THE HIMALAYAN WATERS OF NEPAL. *Proc. Asian Fish. Forum* 1:689-692. 1986. FR 34(1)
[Mahseer Ecol. Project, Dep. Zool., Tribhuvan Univ., Kiripur Campus, Kathmandu, Nepal]

89-000538 Spies, Gunter. THE EMPEROR OF THE REEF: *POMACANTHUS IMPERATOR. Trop. Fish Hobbyist* 37(3):78-80, 83. 1988. FR 34(1)

89-000539 Stalsberg, Alf. A RARE BEAUTY - *CICHLASOMA SPECTABILE. Trop. Fish Hobbyist* 37(3):62-64. 1988. FR 34(1)

LIFE HISTORY-GENERAL WORKS (CONTINUED)

89-000540 Willer, David K. THE EFFECT OF FINE SEDIMENT ON BROWN TROUT EARLY LIFE HISTORY STAGES IN NEWTON CREEK, CLARE COUNTY, MICHIGAN. *M.S. thesis, Central Mich. Univ.* 126p. 1988. From Masters Abstr. Int. 26(4):400. 1988. Order No. MA1332850. FR 34(1)
Salmo trutta.

89-000541 Zhang, Chang Ik. BIOLOGY AND POPULATION DYNAMICS OF ALASKA PLAICE, *PLEURONECTES QUADRITUBERCULATUS*, IN THE EASTERN BERING SEA. *Ph.D. dissertation, Univ. Wash.* 245p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1002-1003. 1988. Order No. DA8810614. FR 34(1)

POPULATION STUDIES, PRODUCTION, RECRUITMENT, ETC.

89-000542 Bodaly, R. A.; J. W. Clayton and C. C. Lindsey. STATUS OF THE SQUANGA WHITEFISH, *COREGONUS* SP., IN THE YUKON TERRITORY, CANADA. *Can. Field-Nat.* 102(1):114-125. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Freshwater Inst., 501 University Crescent, Winnipeg, MB, Canada R3T 2N6] *C. clupeaformis* and *C. sardinella.*

89-000543 Horns, William H.; J. Ellen Marsden and Charles C. Krueger. AN INEXPENSIVE METHOD FOR QUANTITATIVE ASSESSMENT OF LAKE TROUT EGG DEPOSITION IN THE GREAT LAKES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-25. 1988. Abstract only. FR 34(1)
[Nat. Hist. Surv., P.O. Box 634, Zion, IL 60099] *Salvelinus namaycush.*

89-000544 Magnuson, John J. TWO WORLDS FOR FISH RECRUITMENT: LAKES AND OCEANS. *Am. Fish. Soc. Symp.* 5:1-6. 1988. FR 34(1)
[Cent. Limnol. & Dep. Zool., Univ. Wis., Madison 53706]

89-000545 Meredith, G. N. and J. J. Houston. STATUS OF THE GREEN SUNFISH, *LEPOMIS CYANELLUS*, IN CANADA. *Can. Field-Nat.* 102(2):270-276. 1988. In English with French summ. FR 34(1)
[129 Marina Dr., P.O. Box 228, R.R. #3, Manotick, ON, Canada K0A 2N0]

89-000546 Parker, B. J. STATUS OF THE DEEPWATER SCULPIN, *MYOXOCEPHALUS THOMPSONI*, IN CANADA. *Can. Field-Nat.* 102(1):126-131. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000547 Parker, B. J. UPDATED STATUS OF THE RIVER REDHORSE, *MOXOSTOMA CARINATUM*, IN CANADA. *Can. Field-Nat.* 102(1):140-146. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000548 Setzler-Hamilton, Eileen M.; Jeannette A. Whipple and R. Bruce Macfarlane. STRIPED BASS POPULATIONS IN CHESAPEAKE AND SAN FRANCISCO BAYS: TWO ENVIRONMENTALLY IMPACTED ESTUARIES. *Mar. Pollut. Bull.* 19(9):466-477. 1988. FR 34(1)
[Univ. Md., Cent. Environ. & Estuarine Studies, Chesapeake Biol. Lab., Solomons 20688-0038] *Morone saxatilis.*

89-000549 Vollestad, L. A. and B. Jonsson. A 13-YEAR STUDY OF THE POPULATION DYNAMICS AND GROWTH OF THE EUROPEAN EEL *ANGUILLA ANGUILLA* IN A NORWEGIAN RIVER: EVIDENCE FOR DENSITY-DEPENDENT MORTALITY, AND DEVELOPMENT

POPULATION STUDIES, PRODUCTION, RECRUITMENT, ETC. (CONTINUED)

89-000549 CONTINUED OF A MODEL FOR PREDICTING YIELD. *J. Anim. Ecol.* 57(3):983-997. 1988. FR 34(1)
[Ostfold Cty., Environ. Admin., P.O. Box 325, N-1501 Moss, Norway]

SPAWNING HABITS AND MOVEMENTS, FECUNDITY, ETC.

89-000550 Balykin, P. A. SPAWNING FREQUENCY OF WALLEYE POLLOCK, *THERAGRA CHALCOGRAMMA*. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):143-144. 1988. FR 34(1)
[Kamchatka Sect., Pac. Ocean Sci.-Res. Inst. Fish. & Oceanogr. - KoTINRO, Petropavlovsk, USSR]

89-000551 Barss, William H. and Tina Wyllie Echeverria. MATURITY OF WIDOW ROCKFISH *SEBASTES ENTOMELAS* FROM THE NORTHEASTERN PACIFIC, 1977-82. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:13-18. 1987. FR 34(1)
[Dep. Fish & Wildl., Newport, OR 97365]

89-000552 Colin, Patrick L. and Ileana E. Clavijo. SPAWNING ACTIVITY OF FISHES PRODUCING PELAGIC EGGS ON A SHELF EDGE CORAL REEF, SOUTHWESTERN PUERTO RICO. *Bull. Mar. Sci.* 43(2):249-279. 1988. FR 34(1)
[Caribbean Mar. Res. Cent., 100 E. 17th St., Riviera Beach, FL 33404]

89-000553 D'yakov, Yu. P. SOME PECULIARITIES OF REPRODUCTION OF PACIFIC BLACK HALIBUT, *REINHARDTIUS HIPPOGLOSSOIDES*. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):62-69. 1988. FR 34(1)
[Kamchatka Branch, Pac. Fish. & Oceanogr. Res. Inst. - KOTINRO, Petropavlovsk-Kamchatskiy, USSR]

89-000554 Gautier, J. Y.; P. Planquette and Y. Rouger. [A BEHAVIOURAL ANALYSIS OF THE MALE-FEMALE INTERACTIONS OF *HOPLOSTERNUM LITTORALE* DURING THE BREEDING SEASON.] *Rev. Ecol. Terre Vie* 43(4):389-398. 1988. In French with English summ. FR 34(1)
[Lab. Ethol., VA CNRS 373, Univ. Rennes I, Campus Beaulieu, 35042 Rennes Cedex, France]

89-000555 Harper, Rodney. SPAWNING THE SHARPTAIL GOBY *(GOBIONELLUS HASTATUS)*. *Am. Currents* Feb. 1988:13-14. 1988. FR 34(1)
[P.O. Box 872, Bayou la Batre, AL 36509]

89-000556 Manriquez, Adelina; Laura Huaquin; Mila Arellano and Gloria Arratia. [REPRODUCTIVE ASPECTS OF *TRICHOMYCTERUS AREOLATUS* VALENCIENNES, 1846 (PISCES: TELEOSTEI: SILURIFORMES) IN ANGOSTURA RIVER, CHILE.] *Stud. Neotrop. Fauna Environ.* 23(2):89-102. 1988. In Spanish with English summ. FR 34(1)
[Univ. Chile, Fac. Cienc. Agrarias & For., Casilla 9206, Santiago, Chile]

89-000557 Messieh, S. SPAWNING OF ATLANTIC HERRING IN THE GULF OF ST. LAWRENCE. *Am. Fish. Soc. Symp.* 5:31-48. 1988. FR 34(1)
[Dep. Fish. & Oceans, Bedford Inst. Oceanogr. Habitat Ecol. Div., P.O. Box 1006, Dartmouth, NS, Canada B2Y 4A2] *Clupea harengus harengus.*

SPAWNING HABITS AND MOVEMENTS, FECUNDITY, ETC. (CONTINUED)

89-000558 Nesler, Thomas P.; Robert T. Muth and Anthony F. Wasowicz. EVIDENCE FOR BASELINE FLOW SPIKES AS SPAWNING CUES FOR COLORADO SQUAWFISH IN THE YAMPA RIVER, COLORADO. *Am. Fish. Soc. Symp.* 5:68-79. 1988. FR 34(1)
[Fish Res. Stn., Colo. Div. Wildl., Fort Collins 80526] *Ptychocheilus lucius.*

89-000559 Noltie, Douglas Brian. THE BREEDING ECOLOGY OF PINK SALMON (*ONCORHYNCHUS GORBUSCHA* WALBAUM) FROM THE CARP RIVER, EASTERN LAKE SUPERIOR. *Ph.D. dissertation, Univ. Western Ontario (Canada)* 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1505. 1988. FR 34(1)

89-000560 Ohkuma, Kazumasa. [SEX RATIO, AGE COMPOSITION, AND FORK LENGTH OF MASU SALMON (*ONCORHYNCHUS MASOU*), OF THE SHIRIBETSU RIVER, HOKKAIDO, JAPAN.] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 37-47. 1988. In Japanese with English summ. FR 34(1)
[Hokkaido Salmon Hatchery, Fish. Agency Japan, 2-2 Nakanoshima, Toyohira, Sapporo 062, Japan]

89-000561 Page, Lawrence M. and Thomas P. Simon. OBSERVATIONS ON THE REPRODUCTIVE BEHAVIOR AND EGGS OF FOUR SPECIES OF DARTERS, WITH COMMENTS ON *ETHEOSTOMA TIPPECANOE* AND *E. CAMURUM. Trans. Ill. State Acad. Sci.* 81(1-2):205-210. 1988. FR 34(1)
[Ill. Nat. Hist. Surv., Champaign 61820] *Percina phoxocephala, E. sagitta, E. jordani,* and *E. punctulatum.*

89-000562 Tokranov, A. M. [BREEDING HABITS OF MASS SPECIES OF SCULPINS IN THE COASTAL WATERS OF KAMCHATKA.] *Mar. Biol. (Vladivostok)* 1988(4):28-32. 1988. In Russian with English summ. FR 34(1)
[Lab. Bottom Fishes, Kamchatka Div., Pac. Res. Inst. Fish. & Oceanogr., Petropavlovsk-Kamchatsky 683602, USSR] Data for five species.

MOVEMENTS, SEASONAL AND DEPTH DISTRIBUTION, ETC.

89-000563 Glova, Gordon; Colin Docherty and Trevor Washbourne. RADIO-TRACKING RAKAIA SALMON. *Freshwater Catch* No. 36. p. 11. 1988. FR 34(1)
Oncorhynchus tshawytscha in New Zealand.

89-000564 Hilden, Mikael and Lauri Urho. SAMPLING OF LARVAL EUROPEAN SMELT: A FACTORIAL EXPERIMENT. *Am. Fish. Soc. Symp.* 5:123-130. 1988. FR 34(1)
[Game & Fish. Res. Inst., P.O. Box 202, SF-00151, Helsinki, Finland] *Osmerus eperlanus.*

89-000565 Kim, Jin-Yeong and Young-Min Choi. [VERTICAL DISTRIBUTION OF ANCHOVY, *ENGRAULIS JAPONICA* EGGS AND LARVAE.] *Bull. Korean Fish. Soc.* 21(3):139-144. 1988. In Korean with English summ. FR 34(1)
[Natl. Fish. Res. & Dev. Agency, Pusan 606-032, Korea]

89-000566 Klimley, A. P.; S. B. Butler; D. R. Nelson and A. T. Stull. DIEL MOVEMENTS OF SCALLOPED HAMMERHEAD SHARKS, *SPHYRNA LEWINI* GRIFFITH AND SMITH, TO AND FROM A SEAMOUNT IN THE GULF OF CALIFORNIA. *J. Fish. Biol.* 33(5):751-761. 1988. FR 34(1)
[Bodega Mar. Lab., Univ. Calif., P.O. Box 247, Bodega Bay 94923]

MOVEMENTS, SEASONAL AND DEPTH DISTRIBUTION, ETC. (CONTINUED)

89-000567 Legkii, B. P. and D. S. Pavlov. INDIVIDUAL VARIATION OF PHOTOREACTION IN ROACH LARVAE IN RELATION TO DOWNSTREAM MIGRATION. *Sov. J. Ecol. (Engl. Transl. Ekologiya)* 18(6):315-320. 1988. FR 34(1)
[A.N. Servertsov, Inst. Evol. Morphol. & Ecol. Anim., Acad. Sci., USSR] *Rutilus rutilus* in the USSR.

89-000568 Nakata, Hideaki. WIND EFFECTS ON THE TRANSPORT OF JAPANESE SAND EEL LARVAE IN THE EASTERN PART OF THE SETO INLAND SEA. *Nippon Suisan Gakkaishi* 54(9):1553-1561. 1988. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Minamidai, Nakano, Tokyo 164, Japan] *Ammodytes personatus*.

89-000569 Nakata, Hideaki and Toshiyuki Hirano. WIND EFFECTS ON THE TRANSPORT OF RED SEA BREAM LARVAE FROM A COASTAL SPAWNING GROUND ADJACENT TO SHIJIKI BAY. *Nippon Suisan Gakkaishi* 54(9):1545-1552. 1988. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Minamidai, Nakano, Tokyo 164, Japan] *Pagrus major*.

89-000570 Post, John R. and Donald J. McQueen. ONTOGENETIC CHANGES IN THE DISTRIBUTION OF LARVAL AND JUVENILE YELLOW PERCH *(PERCA FLAVESCENS)*: A RESPONSE TO PREY OR PREDATORS? *Can. J. Fish. Aquat. Sci.* 45(10):1820-1826. 1988. In English with French summ. FR 34(1)
[Dep. Biol., York Univ., 4700 Keele St., North York, ON, Canada M3J 1P3]

89-000571 Tsvetkov, V. I. and N. M. Kalyakina. ASSOCIATION OF WHITE SEA FISH WITH FLOATING MACROPHYTES. *Sov. J. Ecol. (Engl. Transl. Ekologiya)* 18(6):301-305. 1988. FR 34(1)
[A.N. Severtsov, Inst. Evol. Morphol. & Ecol. Anim., Acad. Sci., USSR] *Cyclopterus lumpus* and *Gadus morhua*.

FOODS/FEEDING

89-000572 Adams, Peter B. THE DIET OF WIDOW ROCKFISH *SEBASTES ENTOMELAS* IN NORTHERN CALIFORNIA. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:37-41. 1987. FR 34(1)
[Southwest Fish. Cent. Lab., NMFS, NOAA, Tiburon, CA 94920]

89-000573 Amundsen, P. A. and A. Klemetsen. DIET, GASTRIC EVACUATION RATES AND FOOD CONSUMPTION IN A STUNTED POPULATION OF ARCTIC CHARR, *SALVELINUS ALPINUS* L., IN TAKVATN, NORTHERN NORWAY. *J. Fish. Biol.* 33(5):697-709. 1988. FR 34(1)
[Aquatic Biol. Group, Univ. Tromso, P.O. Box 3083 Guleng, N-9001 Tromso, Norway]

89-000574 Andriyevskaya, L. D. ON THE FOOD SUPPLY OF YOUNG-OF-THE-YEAR KAMCHATKAN PINK SALMON, *ONCORHYNCHUS GORBUSCHA*. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):145-147. 1988. FR 34(1)
[Kamchatka Sect., Pac. Ocean Sci.-Res. Inst. Fish. & Oceanogr. - KoTINRO, Petropavlovsk-Kamchatskiy, USSR]

89-000575 Bulman, C. M. and S. J. M. Blaber. FEEDING ECOLOGY OF *MACRURONUS NOVAEZELANDIAE* (HECTOR) (TELEOSTEI: MERLUCCIIDAE) IN SOUTH-EASTERN AUSTRALIA. *Aust. J. Mar. Freshwater Res.* 37(5):621-639.

FOODS/FEEDING (CONTINUED)

89-000575 CONTINUED 1986. FR 34(1)
[Div. Fish. Res., CSIRO Mar. Lab., G.P.O. Box 1538, Hobart, Tasm. 7001, Australia]

89-000576 Butler, Mark Joseph IV. COMMUNITY RESPONSES TO VARIATION IN PREDATION AND PREY RECOLONIZATION: FIELD EXPERIMENTS WITH BLUEGILL SUNFISH AND FRESHWATER MACROINVERTEBRATES. *Ph.D. dissertation, Fla. State Univ.* 159p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2038. 1988. Order No. DA8814403. FR 34(1)
Lepomis macrochirus.

89-000577 Byers, Tim and R. W. Prach. DIET OF THE KELP SNAILFISH, *LIPARIS TUNICATUS*, IN JONES SOUND, CANADIAN HIGH ARCTIC. *Can. Field-Nat.* 102(2):242-245. 1988. FR 34(1)
[Canadian Wildl. Serv., West. & North. Region, Second Floor, 4999-98 Ave., Edmonton, AB, Canada T6B 2X3]

89-000578 Cadwallader, P. L. and J. Douglas. CHANGING FOOD HABITS OF MACQUARIE PERCH, *MACQUARIA AUSTRALASICA* CUVIER (PISCES: PERCICHTHYIDAE), DURING THE INITIAL FILLING PHASE OF LAKE DARTMOUTH, VICTORIA. *Aust. J. Mar. Freshwater Res.* 37(5):647-657. 1986. FR 34(1)
[Fish. & Wildl. Serv., Private Bag 20, Alexandra, Vic. 3714, Australia]

89-000579 Coad, Brian W. and Frough Papahn. SHARK ATTACKS IN THE RIVERS OF SOUTHERN IRAN. *Environ. Biol. Fishes* 23(1-2):131-134. 1988. FR 34(1)
[Ichthyol. Sect., Natl. Mus. Nat. Sci., P.O. Box 3443, Stn. D, Ottawa, ON, Canada K1P 6P4] *Carcharhinus leucas.*

89-000580 D'Amours, Denis. TROPHIC PHASING OF JUVENILE CHUM SALMON (*ONCORHYNCHUS KETA* WALBAUM) AND HARPACTICOID COPEPODS IN THE FRASER RIVER ESTUARY, BRITISH COLUMBIA. *Ph.D. dissertation, Univ. British Columbia (Canada)* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1474-1475. 1988. FR 34(1)

89-000581 de Almeida, Raimunda Goncalves. [FOOD HABITS OF THREE SPECIES OF *TRIPORTHEUS* IN LAKE CASTANHO, AMAZONAS.] *Acta Amazonica* 14(1-2):48-76. 1984. In Portuguese with English summ. FR 34(1)
T. angulatus, T. elongatus, and *T. culter.*

89-000582 Dewey, Sharon L. FEEDING RELATIONSHIPS AMONG FOUR RIFFLE-INHABITING STREAM FISHES. *Trans. Ill. State Acad. Sci.* 81(1-2):171-184. 1988. FR 34(1)
[Dep. Syst. & Ecol., Univ. Kans., Lawrence 66045] *Cottus carolinae, Etheostoma caeruleum, E. flabellare,* and *E. spectabile* in Illinois.

89-000583 Hara, S.; H. Kohno; M. Duray; T. Bagarinao; A. Gallego and Y. Taki. FEEDING HABITS OF LARVAL RABBITFISH, *SIGANUS GUTTATUS* IN THE LABORATORY. *Proc. Asian Fish. Forum* 1:573-576. 1986. FR 34(1)
[SEAFDEC, Aquacult. Dep., P.O. Box 256, Iloilo City, Philippines]

89-000584 Hessen, D. O.; R. Andersen; K. Hindar and J. Skurdal. FOOD SELECTION AND COMPETITION IN SALMONIDS AS REFLECTED BY GILL-RAKER NUMBER AND MORPHOLOGY. *J. Appl. Ichthyol.* 4(3):121-129. 1988. In English with German

FOODS/FEEDING (CONTINUED)

89-000584 CONTINUED and French summ. FR 34(1)
[Univ. Oslo, Dep. Biol., Div. Zool., P.O. Box 1050, Blindern, N-0316 Oslo 3, Norway]

89-000585 Ibrahim, A. A. and F. A. Huntingford. FORAGING EFFICIENCY IN RELATION TO WITHIN-SPECIES VARIATION IN MORPHOLOGY IN THREE-SPINED STICKLEBACKS, *GASTEROSTEUS ACULEATUS*. *J. Fish. Biol.* 33(5):823-824. 1988. FR 34(1)
[Huntingford: Dep. Zool., Univ. Glasgow, Glasgow G12 8QQ, Scotland]

89-000586 Kozlov, A. N. and A. G. Naumov. FEEDING OF YOUNG OF THREE NOTOTHENOID (NOTOTHENOIDEI) SPECIES IN THE INDIAN OCEAN SECTOR OF THE ANTARCTIC. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):70-73. 1988. FR 34(1)
[All-Union Mar. Fish. & Oceanogr. Res. Inst. - VNIRO, Moscow, USSR] *Chaenodraco wilsoni*, *Trematomus eulepidotus*, and *Gymnodraco acuticeps*.

89-000587 Kruuk, H.; B. Nolet and D. French. FLUCTUATIONS IN NUMBERS AND ACTIVITY OF INSHORE DEMERSAL FISHES IN SHETLAND. *J. Mar. Biol. Assoc. U.K.* 68(4):601-617. 1988. FR 34(1)
[Inst. Terrestrial Ecol., Banchory AB3 4BY, Scotland] *Zoarces viviparus*, *Pholis gunnellus*, *Ciliata mustela*, *C. septentrionalis*, *Anguilla anguilla*, *Gaidropsarus mediterraneus*, *G. vulgaris*, *Myoxocephalus scorpius*, *Spinachia spinachia*, *Pollachius virens*, and *P. pollachius*.

89-000588 Lancaster, Jill; Alan G. Hildrew and Colin R. Townsend. COMPETITION FOR SPACE BY PREDATORS IN STREAMS: FIELD EXPERIMENTS ON A NET-SPINNING CADDISFLY. *Freshwater Biol.* 20(2):185-193. 1988. FR 34(1)
[Hildrew: School Biol. Sci., Queen Mary Coll., Mile End Rd., London E1 4NS, England] *Salmo trutta*.

89-000589 Lobon-Cervia, Javier and Alejandro de Diego. FEEDING STRATEGY OF THE BARBEL (*BARBUS BOCAGEI* STEIND.) WITH RELATION TO BENTHOS COMPOSITION. *Arch. Hydrobiol.* 114(1):83-95. 1988. FR 34(1)
[Natl. Mus. Nat. Sci., CSIC, Jose Gutierrez Abascal, 2, 28006 Madrid, Spain]

89-000590 Martinez-Palacios, C. A. and L. G. Ross. THE FEEDING ECOLOGY OF THE CENTRAL AMERICAN CICHLID *CICHLASOMA UROPHTHALMUS* (GUNTHER). *J. Fish. Biol.* 33(5):665-670. 1988. FR 34(1)
[Cent. Invest. Estudios Avanzados IPN, Merida, Yucatan, Mexico]

89-000591 Medved, Robert J.; Charles E. Stillwell and John G. Casey. THE RATE OF FOOD CONSUMPTION OF YOUNG SANDBAR SHARKS (*CARCHARHINUS PLUMBEUS*) IN CHINCOTEAGUE BAY, VIRGINIA. *Copeia* 1988(4):956-963. 1988. FR 34(1)
[Grad. School Oceanogr., Univ. R.I., Narragansett 02882]

89-000592 Mitani, Isamu. [FOOD HABITS OF JAPANESE ANCHOVY IN THE SHIRASU FISHING GROUND WITHIN SAGAMI BAY.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):1859-1865. 1988. In Japanese with English summ. FR 34(1)

FOODS/FEEDING (CONTINUED)

89-000592 CONTINUED
[Fish. Exp. Stn., Jogashima, Miura, Kanagawa 238-02, Japan] *Engraulis japonica.*

89-000593 Moffat, Douglas Emerson. NUTRITION AND DIGESTION IN LARVAE OF THREE SPECIES OF DEMERSAL-SPAWNING FISH, WITH PARTICULAR REFERENCE TO THE ROLE OF ANNUAL CYCLES IN PLANKTONIC LIPID. *Ph.D. dissertation, Univ. Conn.* 167p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1451. Order No. DA8812183. FR 34(1)

89-000594 Piatt, John Forrest. BEHAVIOURAL ECOLOGY OF COMMON MURRE AND ATLANTIC PUFFIN PREDATION ON CAPELIN: IMPLICATIONS FOR POPULATION BIOLOGY. *Ph.D. dissertation, Memorial Univ. Newfoundland (Canada)* 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1505-1506. 1988. FR 34(1)
Mallotus villosus, Ammodytes dubius, and *Gadus morhua* in Canada.

89-000595 Pulfrich, Andrea and C. L. Griffiths. FEEDING BIOLOGY OF THE HOTTENTOT, *PACHYMETOPON BLOCHII* (VAL.), WITH AN ESTIMATE OF DAILY RATION. *S. Afr. J. Zool.* 23(3):196-207. 1988. In English with Africaans summ. FR 34(1)
[Griffiths: Zool. Dep., Univ. Cape Town, Rondebosch 7700, South Africa]

89-000596 Ryer, Clifford H. PIPEFISH FORAGING: EFFECTS OF FISH SIZE, PREY SIZE AND ALTERED HABITAT COMPLEXITY. *Mar. Ecol. Prog. Ser.* 48(1):37-45. 1988. FR 34(1)
[Hatfield Mar. Sci. Cent., Oreg. State Univ., Newport 97365] *Syngnathus fuscus.*

89-000597 Sagar, P. M. and G. J. Glova. DIEL FEEDING PERIODICITY, DAILY RATION AND PREY SELECTION OF A RIVERINE POPULATION OF JUVENILE CHINOOK SALMON, *ONCORHYNCHUS TSHAWYTSCHA* (WALBAUM). *J. Fish Biol.* 33(4):643-653. 1988. FR 34(1)
[Freshwater Fish. Cent., Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand]

89-000598 Stergiou, K. I. FEEDING HABITS OF THE LESSEPSIAN MIGRANT *SIGANUS LURIDUS* IN THE EASTERN MEDITERRANEAN, ITS NEW ENVIRONMENT. *J. Fish Biol.* 33(4):531-543. 1988. FR 34(1)
[Natl. Cent. Mar. Res., Agio Kosmas, Hellenikon, Athens 16604, Greece]

89-000599 Stewart, Craig A. DIET OF THE RAINBOW DARTER *(ETHEOSTOMA CAERULEUM)* IN ROCK RUN, CLARK COUNTY, OHIO. *Ohio J. Sci.* 88(5):198-200. 1988. FR 34(1)
[Dep. Biol., Indiana Univ., Bloomington 47405]

89-000600 Wetterer, James K. EFFECT OF LOCALIZED PREY DEPLETION ON PREY SELECTIVITY BY FISH. *Trans. Am. Fish. Soc.* 117(3):313-316. 1988. FR 34(1)
[Dep. Psychol., 134 Wesley Hall, Vanderbilt Univ., Nashville, TN 37240] *Lepomis macrochirus.*

AGE AND GROWTH

89-000601 Barbieri, G. and M. C. Barbieri. AGEING OF *PARODON TORTUOSUS* EIGENMANN AND NORRIS, 1900 (OSTEICHTHYES, PARODONTIDAE) FROM THE PASSA CINCO RIVER, BRAZIL. *J. Fish. Biol.* 33(5):819. 1988. FR 34(1) RIVER, BRAZIL. *J. Fish. Biol.* 33(5):819. 1988. FR 34(1)

AGE AND GROWTH (CONTINUED)

89-000601 CONTINUED
[Ichthyol. Lab., Univ. Fed. Sao Carlos, Caixa Postal 676, 13560 Sao Carlos, Sao Paulo State, Brazil]

89-000602 Berry, Walter John. ASPECTS OF THE GROWTH AND LIFE HISTORY OF THE SHEEPSHEAD MINNOW, *CYPRINODON VARIEGATUS*, FROM RHODE ISLAND AND FLORIDA. *Ph.D. dissertation, Univ. R.I.* 217p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1051. 1988. Order No. DA8811550. FR 34(1)
C. v. variegatus and *C. v. ovinus*.

89-000603 Chappaz, Remi; Guy Brun and Georges Olivari. [GROWTH STRATEGY OF GUDGEON *GOBIO GOBIO* (L.) IN OLIGOTROPHIC RESERVOIR: LAKE OF SAINTE-CROIX (PROVENCE, FRANCE).] *C.R. Acad. Sci. Ser. III Sci. Vie* 307(8):493-497. 1988. In French with English summ. FR 34(1)

89-000604 Dgebuadze, Yu. Yu. and M. O. Skomorokhov. [ON SIZE DIFFERENTIATION OF YOUNG PERCH *PERCA FLUVIATILIS* L.] *Biol. Nauki (Moscow)* 297(9):35-41. 1988. In Russian with English summ. FR 34(1)

89-000605 Gauldie, R. W. THE EFFECT OF SURFACE SCULPTURING ON THE INTERPRETATION OF OPAQUE AND HYALINE ZONES IN THE ORANGE ROUGHY OTOLITH. *J. Appl. Ichthyol.* 4(3):140-146. 1988. In English with German and French summ. FR 34(1)
[Minist. Agric. & Res. Cent., P.O. Box 297, Wellington, New Zealand] *Hoplostethus atlanticus*.

89-000606 Gutierrez, Emilia and Beatriz Morales-Nin. TIME SERIES ANALYSIS OF DAILY GROWTH IN *DICENTRARCHUS LABRAX* L. OTOLITHS. *J. Exp. Mar. Biol. Ecol.* 103(1-3):163-179. 1986. FR 34(1)
[Inst. Cienc. del Mar, Paseo Nac. s/n Barcelona 08003, Spain]

89-000607 Jarimopas, Parnsri. REALIZED RESPONSE OF THAI RED TILAPIA TO WEIGHT - SPECIFIC SELECTION FOR GROWTH. *Proc. Asian Fish. Forum* 1:109-111. 1986. FR 34(1)
[Natl. Inland Fish., Bangkok, Thailand] *Tilapia mossambica* and *T. nilotica*.

89-000608 Karakiri, Maria and Hein von Westernhagen. APPARATUS FOR GRINDING OTOLITHS OF LARVAL AND JUVENILE FISH FOR MICROSTRUCTURE ANALYSIS. *Mar. Ecol. Prog. Ser.* 49(1/2):195-198. 1988. FR 34(1)
[Biol. Anstalt Helgoland, Notkestr. 31, D-2000 Hamburg 52, West Germany]

89-000609 Lenarz, William H. AGEING AND GROWTH OF WIDOW ROCKFISH. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:31-35. 1987. FR 34(1)
[Southwest Fish. Cent. Lab., NMFS, NOAA, Tiburon, CA 94920] *Sebastes entomelas*.

89-000610 Mitani, Hayato; Mitsuru Igarashi and Osamu Watarai. [A STUDY OF THE AGE-DETERMINATION OF CHUM SALMON USING PERSONAL COMPUTER FOR SCALE READING.] *J. Fac. Mar. Sci. Technol. Tokai Univ.* No. 26. p. 145-154. 1988. In Japanese with English summ. FR 34(1)
Oncorhynchus keta.

AGE AND GROWTH (CONTINUED)

89-000611 Powles, Perce M. and Stanley M. Warlen. ESTIMATION OF HATCH PERIODS FOR YELLOW PERCH, BASED ON OTOLITH READINGS FROM JUVENILES (AGE-0). *Am. Fish. Soc. Symp.* 5:60-67. 1988. FR 34(1)
[Biol. Dep., Trent Univ., Peterborough, ON, Canada K9J 7B8] *Perca flavescens* in Canada.

89-000612 Robert, F. and R. Vianet. AGE AND GROWTH OF *PSETTA MAXIMA* (LINNE, 1758) AND *SCOPHTHALMUS RHOMBUS* (LINNE, 1758) IN THE GULF OF LION (MEDITERRANEAN). *J. Appl. Ichthyol.* 4(3):111-120. 1988. In English with German and French summ. FR 34(1)
[Lab. Parasitol. Comp., Univ. Sci Tech. Languedoc, Place Eugene Bataillon, 34060 Montpellier Cedex, France]

89-000613 Sharp, Dan and David R. Bernard. PRECISION OF ESTIMATED AGES OF LAKE TROUT FROM FIVE CALCIFIED STRUCTURES. *N. Am. J. Fish. Manage.* 8(3):367-372. 1988. FR 34(1)
[Dep. Fish & Game, Sport Fish Div., 1300 College Rd., Fairbanks, AK 99701] *Salvelinus namaycush* in Alaska.

89-000614 Xuelong Xu; Syoiti Tanaka and Chongdao Mi. AGE STRUCTURE ESTIMATION FROM SIZE DATA FOR HAIRTAIL IN THE NORTHERN EAST CHINA SEA. *Nippon Suisan Gakkaishi* 54(10):1703-1710. 1988. In English. FR 34(1)
[E. China Sea Fish. Res. Inst. Chinese Acad. Aquat. Sci., 300 Jun Gun Rd., Shanghai, China] *Trichiurus haumera*.

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC.

89-000615 Agee, David M.; William J. Alvey; Kenneth D. Berger; Brad J. Leinenbach and Thomas H. Cervone. WINTER FISHES OF STINKING FORK. *Proc. Indiana Acad. Sci.* 96:507-512. 1987. FR 34(1)
[Univ. Southern Indiana, Evansville 47712]

89-000616 Baldwin, M. E. UPDATED STATUS OF THE SILVER SHINER, *NOTROPIS PHOTOGENIS*, IN CANADA. *Can. Field-Nat.* 102(1):147-157. 1988. In English with French summ. FR 34(1)
[729 Village Green Ave., London, ON, Canada N6K 1H3]

89-000617 Bell-Cross, Graham and John L. Minshull. THE FISHES OF ZIMBABWE. *Trustees Natl. Mus. Monuments (Harare, Zimbabwe)* 294p. 1988. FR 34(1)

89-000618 Burr, Brooks M.; Melvin L. Warren, Jr. and Kevin S. Cummings. NEW DISTRIBUTIONAL RECORDS OF ILLINOIS FISHES WITH ADDITIONS TO THE KNOWN FAUNA. *Trans. Ill. State Acad. Sci.* 81(1-2):163-170. 1988. FR 34(1)
[Dep. Zool., South. Ill. Univ., Carbondale 62901-6501]

89-000619 Dennis, George D. and Thomas J. Bright. REEF FISH ASSEMBLAGES ON HARD BANKS IN THE NORTHWESTERN GULF OF MEXICO. *Bull. Mar. Sci.* 43(2):280-307. 1988. FR 34(1)
[Dep. Mar. Sci., Univ. Puerto Rico, Mayaguez, Puerto Rico 00709-5000]

89-000620 Erokhin, V. G. DISTRIBUTION OF JUVENILE COHO SALMON, *ONCORHYNCHUS KISUTSCH*, IN KAMCHATKA WATERS OF THE OKHOTSK SEA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):101-104. 1988. FR 34(1)

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC. (CONTINUED)

89-000620 CONTINUED
[Kamchatka Branch, Pac. Fish. & Oceanogr. Res. Inst., KoTINRO, Petropavlovsk-Kamchatskii, USSR]

89-000621 Hanks, Brian G. and Michael J. McCoid. FIRST RECORD FOR THE LEAST KILLIFISH, *HETERANDRIA FORMOSA* (PISCES: POECILIIDAE), IN TEXAS. *Tex. J. Sci.* 40(4):447-448. 1988. FR 34(1)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843]

89-000622 Henderson, P. A. THE STRUCTURE OF ESTUARINE FISH COMMUNITIES. *J. Fish Biol.* 33(Suppl. A):223-225. 1988. FR 34(1)
[Mar. Biol. Unit, Cent. Electricity Res. Lab., Fawley, Southampton SO4 1TW, England]

89-000623 Houde, E. D.; S. Almatar; J. C. Leak and C. E. Dowd. ICHTHYOPLANKTON ABUNDANCE AND DIVERSITY IN THE WESTERN ARABIAN GULF. *Kuwait Bull. Mar. Sci.* No. 8. p. 107-393. 1986. FR 34(1)
[Chesapeake Biol. Lab., Univ. Md., P.O. Box 38, Solomans]

89-000624 Houston, J. J. STATUS OF THE SHORTJAW CISCO, *COREGONUS ZENITHICUS*, IN CANADA. *Can. Field-Nat.* 102(1):97-102. 1988. In English with French summ. FR 34(1)
[Bio-North Consult., 40 Banmoor Blvd., Scarborough, ON, Canada M1J 2Z2]

89-000625 Houston, J. J. STATUS OF THE GREEN STURGEON, *ACIPENSER MEDIROSTRIS*, IN CANADA. *Can. Field-Nat.* 102(2):286-290. 1988. In English with French summ. FR 34(1)
[40 Banmoor Blvd., Scarborough, ON, Canada M1J 2Z2]

89-000626 Johnsingh, A. J. T. and D. Viickram. FISHES OF MUNDANTHURAI WILDLIFE SANCTUARY, TAMIL NADU. *J. Bombay Nat. Hist. Soc.* 84(3):526-533. 1987. FR 34(1)
[Wildl. Inst. India, Dehra Dun 246 006, India]

89-000627 Jones, Anthony T.; Peter Dutton and Robert E. Snodgrass. REOCCURRENCE OF THE PACIFIC SEAHORSE, *HIPPOCAMPUS INGENS*, IN SAN DIEGO BAY. *Calif. Fish Game* 74(4):236-238. 1988. FR 34(1)
[Undersea Res. Lab., 1000 Pope Rd., Honolulu, HI 96822]

89-000628 Kelley, D. F. and P. J. Reay. THE SHALLOW CREEK FISH COMMUNITIES OF SOUTH-WEST ENGLAND AND WEST WALES ESTUARIES. *J. Fish Biol.* 33(Suppl. A):221-222. 1988. FR 34(1)
[Old Farm, Trebetherick, Wadebridge PL27 6SB, England]

89-000629 Leatherland, Scott A. and Thomas H. Cervone. WINTER FISHES IN BAYOU CREEK DRAINAGE. *Proc. Indiana Acad. Sci.* 96:506. 1987. Abstract only. FR 34(1)
[Univ. Southern Indiana, Evansville 47712]

89-000630 Leslie, J. K. and C. A. Timmins. SHORELINE OCCURRENCE AND ABUNDANCE OF YOUNG FISH IN THE ST. CLAIR RIVER, ONTARIO. *Int. Assoc. Great Lakes Res. Conf.* 31:A-32. 1988. Abstract only. FR 34(1)
[Dep. Fish. & Oceans, Canada Cent. Inland Waters, Burlington, ON, Canada L7R 4A6]
Dorosoma cepedianum and *Osmerus mordax*.

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC. (CONTINUED)

89-000631 Markle, Douglas F.; Michael J. Dadswell and Ralph G. Halliday. DEMERSAL FISH AND DECAPOD CRUSTACEAN FAUNA OF THE UPPER CONTINENTAL SLOPE OFF NOVA SCOTIA FROM LAHAVE TO ST. PIERRE BANKS. *Can. J. Zool.* 66(9):1952-1960. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331]

89-000632 Meredith, G. N. and J. J. Houston. STATUS OF THE LONGEAR SUNFISH, *LEPOMIS MEGALOTIS*, IN CANADA. *Can. Field-Nat.* 102(2):277-285. 1988. In English with French summ. FR 34(1)
[129 Marina Dr., P.O. Box 228, R.R. #3, Manotick, ON, Canada K0A 2N0]

89-000633 Merlen, Godfrey. TWO NEW BUTTERFLY FISH RECORDS FROM WENMAN ISLAND. *Not. Galapagos* No. 46. p. 8-9. 1988. FR 34(1)
[Isla Santa Cruz, Galapagos, Ecuador] *Chaetodon lunula* and *C. auriga.*

89-000634 Minchin, D. COUCH'S GOBY, *GOBIUS COUCHI* (TELEOSTEI: GOBIIDAE), FROM IRISH WATERS. *J. Fish. Biol.* 33(5):821-822. 1988. FR 34(1)
[Fish. Res. Cent., Dep. Mar., Abbotstown, Dublin 15, Ireland]

89-000635 Minshull, John L. A REVISED CHECKLIST OF ZIMBABWE FISHES. *Arnoldia Zimbabwe* 9(27):343-352. 1987. FR 34(1)
[Curator Ichthyol., Nat. Hist. Mus. Zimbabwe, P.O. Box 240, Bulawayo, Zimbabwe]

89-000636 Nakata, Hideaki; Hiroji Takeuchi and Toshiyuki Hirano. A FIELD EXPERIMENT WITH DRIFTING HOOP NETS TO COLLECT THE SMALL FISH GATHERING AROUND DRIFT ALGAE. *Bull. Jpn. Soc. Sci. Fish.* 54(1):1899-1906. 1988. In English. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Minamidai, Nakano, Tokyo 164, Japan] *Arothron firmamentum, Abudefduf vaigiensis, Thamnaconus modestus, Decapterus maruadsi, Rhyncopelates oxyrhynchus, Psenses* sp., *Seriola lalandi, Siganus* sp., and *Seriola dumerili* in Japan.

89-000637 Neilson, J. D.; E. M. DeBlois and P. C. F. Hurley. STOCK STRUCTURE OF SCOTIAN SHELF FLATFISH AS INFERRED FROM ICHTHYOPLANKTON SURVEY DATA AND THE GEOGRAPHIC DISTRIBUTION OF MATURE FEMALES. *Can. J. Fish. Aquat. Sci.* 45(10):1674-1685. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Mar. Fish Div., Biol. Stn., St. Andrews, NB, Canada E0G 2X0] *Hippoglossoides platessoides, Limanda ferruginea,* and *Glyptocephalus cynoglossus* in Canada.

89-000638 O'Gorman, Robert; R. W. Owens; C. P. Schneider and T. H. Eckert. FISH POPULATIONS IN SOUTHERN LAKE ONTARIO: A COMMUNITY POISED FOR CHANGE. *Int. Assoc. Great Lakes Res. Conf.* 31:A-43. 1988. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., 17 Lake, Oswego, NY 13126]

89-000639 Outer Continental Shelf Environmental Assessment Program. MARINE FISHERIES: RESOURCES AND ENVIRONMENTS. *In: The Gulf of Alaska - Physical Environment and Biological Resources. Donald W. Hood and Steven T. Zimmerman, editors.* p. 417-458. 1987. FR 34(1)

89-000640 Papaconstantinou, C. and E. Caragitsou. THE FIRST OCCURRENCE OF THE LESSEPSIAN FISH IMMIGRANT *PEMPHERIS VANICOLENSIS* IN TERRITORIAL GREEK WATERS. *Thalassographica* 9(2):79-80. 1986. In English. FR 34(1)
[Natl. Cent. Mar. Res., Athens, Greece]

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC. (CONTINUED)

89-000641 Parker, B. J. STATUS OF THE SHORTNOSE CISCO, *COREGONUS REIGHARDI*, IN CANADA. *Can. Field-Nat.* 102(1):92-96. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000642 Parker, B. J. STATUS OF THE PADDLEFISH, *POLYODON SPATHULA*, IN CANADA. *Can. Field-Nat.* 102(2):291-295. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000643 Parker, B. J.; P. McKee and R. R. Campbell. UPDATED STATUS OF THE GRAVEL CHUB, *HYBOPSIS X-PUNCTATA*, IN CANADA. *Can. Field-Nat.* 102(1):158-162. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000644 Parker, B. J.; P. McKee and R. R. Campbell. STATUS OF THE REDSIDE DACE, *CLINOSTOMUS ELONGATUS*, IN CANADA. *Can. Field-Nat.* 102(1):163-169. 1988. In English with French summ. FR 34(1)
[19 Wichey Rd., West Hill, ON, Canada M3C 2H5]

89-000645 Peden, Alex E. and Grant W. Hughes. SYMPATRY IN FOUR SPECIES OF *RHINICHTHYS* (PISCES), INCLUDING THE FIRST DOCUMENTED OCCURRENCES OF *R. UMATILLA* IN THE CANADIAN DRAINAGES OF THE COLUMBIA RIVER. *Can. J. Zool.* 66(8):1846-1856. 1988. In English with French summ. FR 34(1)
[Royal British Columbia Mus., Victoria, BC, Canada V8V 1X4] *R. cataractae, R. falcatus,* and *R. osculus.*

89-000646 Richards, Laura J. and S. Jergen Westrheim. SOUTHERN RANGE EXTENSION OF THE DUSKY ROCKFISH, *SEBASTES CILIATUS*, IN BRITISH COLUMBIA. *Can. Field-Nat.* 102(2):251-253. 1988. FR 34(1)
[Dep. Fish. & Oceans, Fish. Res. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-000647 Riget, Frank and Jesper Boje. DISTRIBUTION AND ABUNDANCE OF YOUNG GREENLAND HALIBUT *(REINHARDTIUS HIPPOGLOSSOIDES)* IN WEST GREENLAND WATERS. *Northwest Atl. Fish. Org. Sci. Counc. Stud.* No. 12. p. 7-12. 1988. FR 34(1)
[Greenland Fish. Res. Inst., Tagensvej 135, DK-2200 Copenhagen N, Denmark]

89-000648 Riget, Frank and J. Messtorff. DISTRIBUTION, ABUNDANCE AND MIGRATION OF ATLANTIC WOLFFISH *(ANARHICHAS LUPUS)* AND SPOTTED WOLFFISH *(ANARHICHAS MINOR)* IN WEST GREENLAND WATERS. *Northwest Atl. Fish. Org. Sci. Counc. Stud.* No. 12. p. 13-20. 1988. FR 34(1)
[Greenland Fish. & Environ. Res. Inst., Tagensvej 135, DK-2200 Copenhagen N, Denmark]

89-000649 Rogers, Donald E.; Brenda J. Rogers and Rick J. Rosenthal. THE NEARSHORE FISHES. *In: The Gulf of Alaska - Physical Environment and Biological Resources. Donald W. Hood and Steven T. Zimmerman, editors.* p. 399-415. 1987. FR 34(1)
[Fish. Res. Inst., Univ. Wash., Seattle]

89-000650 Schultheis, Susan J.; Kenneth D. Berger; Rusty K. Yeager; David M. Agee and Thomas H. Cervone. SUMMER FISHES OF PIGEON CREEK DRAINAGE. *Proc. Indiana Acad. Sci.* 96:523-530. 1987. FR 34(1)
[Univ. Southern Indiana, Evansville 47712]

GEOGRAPHICAL DISTRIBUTION, FISH SURVEYS, ETC. (CONTINUED)

89-000651 Timmons, Tom J. FISHES OF MURPHY'S POND, A CYPRESS SWAMP IN WESTERN KENTUCKY. *Trans. Ky. Acad. Sci.* 49(1-2):21-25. 1988. FR 34(1)
[Hancock Biol. Stn., Dep. Biol. Sci., Murray State Univ., Murray, KY 42071] Data for 27 species.

89-000652 Tsokur, A. G. FIRST RECORD OF EGGS OF THE CENTRACANTH, *CENTRACANTHUS CIRRUS* (CENTRACANTHIDAE), FROM THE BLACK SEA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):141-142. 1988. FR 34(1)
[Odessa Sect. Inst. Biol. South. Seas, AN USSR - OdO InBYuM AN USSR, Odessa, USSR]

89-000653 Warren, Melvin L., Jr. and Brooks M. Burr. REASSESSMENT OF THE ILLINOIS RANGES OF THE BIGEYE CHUB, *HYBOPSIS AMBLOPS*, AND THE PALLID SHINER, *NOTROPIS AMNIS*. *Ohio J. Sci.* 88(5):181-183. 1988. FR 34(1)
[Dep. Zool., South. Ill. Univ., Carbondale 62901-6501]

89-000654 Wongratana, Thosaporn. OCCURRENCE OF THE PIGMY DEVIL RAY, *MOBULA DIABOLUS* (SHAW) (PISCES: MOBULIDAE), FROM THAILAND. *Nat. Hist. Bull. Siam Soc.* 36(1):1-6. 1988. FR 34(1)
[Univ. Mus. Zool., Dep. Biol., Fac. Sci., Chulalongkorn Univ., Bangkok 10500, Thailand]

89-000655 Yeager, Rusty K.; David S. Nichols; Susan J. Schultheis; Michael T. Galbraith; Susan E. Lenn and Thomas H. Cervone. FISHES OF GOOSE POND AND ITS DRAINAGE BASIN. *Proc. Indiana Acad. Sci.* 96:553-558. 1987. FR 34(1)
[Univ. South. Indiana, Evansville 47712]

ABUNDANCE, FACTORS OF; SURVIVAL AND MORTALITY

89-000656 Alexandersdottir, Marianna. LIFE HISTORY OF PINK SALMON (*ONCORHYNCHUS GORBUSCHA*) IN SOUTHEASTERN ALASKA AND IMPLICATIONS FOR MANAGEMENT. *Ph.D. dissertation, Univ. Wash.* 164p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):965. 1988. Order No. DA8810496. FR 34(1)

89-000657 Allen, Larry G. and Michael P. Franklin. DISTRIBUTION AND ABUNDANCE OF YOUNG-OF-THE-YEAR WHITE SEABASS, *ATRACTOSCION NOBILIS*, IN THE VICINITY OF LONG BEACH HARBOR, CALIFORNIA IN 1984-1987. *Calif. Fish Game* 74(4):245-248. 1988. FR 34(1)
[Dep. Biol., Calif. State Univ., Northridge 91330]

89-000658 Aoki, Ichiro and Takashige Sugimoto. [ECHO SURVEYING OF DISTRIBUTION AND ABUNDANCE OF PELAGIC FISH SCHOOLS IN RELATION TO OCEANOGRAPHIC CONDITIONS IN THE COASTAL AREA OF KUMANO-NADA SEA.] *Nippon Suisan Gakkaishi* 54(10):1747-1755. 1988. In Japanese with English summ. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Nakano, Tokyo 164, Japan]

89-000659 Green Ruiz, Yanira A. and Donaldo Acal Sanchez. DISTRIBUTION AND ABUNDANCE OF FISH LARVAE AND ESTIMATION OF THE SPAWNING BIOMASS OF *ETRUMEUS TERES* (DEKAY) IN THE GULF OF CALIFORNIA, APRIL 1985. *Cienc. Mar.* 13(3):69-96. 1987. In Spanish and English. FR 34(1)
[Cent. Regional Invest. Pesquera Inst. Nac. Pesca, Mazatlan, Sinaloa, Mexico]

ABUNDANCE, FACTORS OF; SURVIVAL AND MORTALITY (CONTINUED)

89-000660 Hall, Lenwood W., Jr. STUDIES OF STRIPED BASS IN THREE CHESAPEAKE BAY SPAWNING HABITATS. *Mar. Pollut. Bull.* 19(9):478-487. 1988. FR 34(1)
[Johns Hopkins Univ., Appl. Physics Lab., Aquat. Ecol. Sect., Shady Side, MD 20764] *Morone saxatilis.*

89-000661 Mayekiso, M. and T. Hecht. CONSERVATION STATUS OF THE ANABANTID FISH *SANDELIA BAINSII* IN THE TYUME RIVER, SOUTH AFRICA. *S. Afr. J. Wildl. Res.* 18(3):101-108. 1988. In English with Africaans summ. FR 34(1)
[Hecht: Dep. Ichthyol. & Fish. Sci., Rhodes Univ., Grahamstown 6140, South Africa] *Micropterus salmoides, Oncorhynchus mykiss,* and *Clarius gariepinus.*

89-000662 McMahon, Thomas E. and Jerry C. Tash. EXPERIMENTAL ANALYSIS OF THE ROLE OF EMIGRATION IN POPULATION REGULATION OF DESERT PUPFISH. *Ecology* 69(6):1871-1883. 1988. FR 34(1)
[Coll. For. & Hatfield Mar. Sci. Cent., Oreg. State Univ., Newport 97365] *Cyprinodon macularius.*

89-000663 Meffe, Gary K.; David L. Certain and Andrew L. Sheldon. SELECTIVE MORTALITY OF POST-SPAWNING YELLOWFIN SHINERS, *NOTROPIS LUTIPINNIS* (PISCES: CYPRINIDAE). *Copeia* 1988(4):853-858. 1988. FR 34(1)
[Univ. Ga., Savannah River Ecol. Lab., Drawer E, Aiken, SC 29801]

89-000664 Peterman, Randall M. and Michael J. Bradford. WIND SPEED AND MORTALITY RATE OF A MARINE FISH, THE NORTHERN ANCHOVY *(ENGRAULIS MORDAX). Science (Washington D.C.)* 235(4786):354-356. 1987. FR 34(1)
[Nat. Resour. Manage. Program, Simon Fraser Univ., Burnaby, BC, Canada V5A 1S6]

89-000665 Schweigert, Jacob F. STATUS OF THE PACIFIC SARDINE, *SARDINOPS SAGAX,* IN CANADA. *Can. Field-Nat.* 102(2):296-303. 1988. In English with French summ. FR 34(1)
[Fish. Res. Branch, Dep. Fish. & Oceans, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

89-000666 Varandani, Nanik S. and P. P. Oza. FISHKILL AT KANKARIA LAKE - A CASE STUDY. *Proc. Natl. Semin. Polln. Contl. Environ. Manage.* 1985(17-19):93-97. 1985. From Paryavaran Abstr. 5(1):8801-214. 1988. FR 34(1)
[LD Coll. Eng. Ahmedabad-15, India] *Tilapia mossambica.*

IDENTIFICATION, KEYS, CLASSIFICATION

89-000667 Allen, M. James and Gary B. Smith. ATLAS AND ZOOGEOGRAPHY OF COMMON FISHES IN THE BERING SEA AND NORTHEASTERN PACIFIC. *NOAA Tech. Rep. NMFS* No. 66. 152p. 1988. FR 34(1)
[MBC Appl. Environ. Sci., 947 Newhall St., Costa Mesa, CA 92627]

89-000668 Balushkin, A. V. A NEW SPECIES OF TOAD BEARDFISH, *POGONOPHRYNE CURTILEMMA* SP. N. (ARTEDIDRACONIDAE), FROM WESTERN ANTARCTICA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):127-138. 1988. FR 34(1)
[Zool. Inst., AN SSSR - ZIN, Leningrad, USSR]

IDENTIFICATION, KEYS, CLASSIFICATION (CONTINUED)

89-000669 Coad, Brian W. *APHANIUS VLADYKOVI*, A NEW SPECIES OF TOOTH-CARP FROM THE ZAGROS MOUNTAINS OF IRAN (OSTEICHTHYES: CYPRINODONTIDAE). *Environ. Biol. Fishes* 23(1-2):115-125. 1988. FR 34(1)
[Ichthyol. Sect., Natl. Mus. Nat. Sci., P.O. Box 3443, Stn. D, Ottawa, ON, Canada K1P 6P4]

89-000670 Evseenko, S. A. A REVIEW OF "ARMLESS" FLOUNDERS OF THE GENUS *ACHIROPSETTA* (PLEURONECTOIDEI) WITH DESCRIPTION OF A NEW SPECIES, *ACHIROPSETTA HETEROLEPIS* SP. NOV. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):10-21. 1988. FR 34(1)
[Inst. Oceanol., Acad. Sci. USSR, Moscow, USSR] *A. tricholepis*.

89-000671 Freeman, M. C.; M. K. Crawford; J. C. Barrett; D. E. Facey; M. G. Flood; J. Hill; D. J. Stouder and G. D. Grossman. FISH ASSEMBLAGE STABILITY IN A SOUTHERN APPALACHIAN STREAM. *Can. J. Fish. Aquat. Sci.* 45(11):1949-1958. 1988. In English with French summ. FR 34(1)
[School For. Resour. & Inst. Ecol., Univ. Ga., Athens 30602] *Cottus bairdi, Rhinichthys cataractae, Clinostomus funduloides, Salmo gairdneri,* and *Etheostoma blennioides* in North Carolina.

89-000672 Garzon, Jaime and Arturo Acero P. A NEW SPECIES OF *LYTHRYPNUS* (PISCES: GOBIIDAE) FROM THE TROPICAL WESTERN ATLANTIC. *Bull. Mar. Sci.* 43(2):308-314. 1988. FR 34(1)
[Inst. Invest. Mar. Punta Betin (INVEMAR), Apdo. 1016, Santa Marta, Colombia] *L. minimus*.

89-000673 Gery, J.; P. Planquette and P. Y. Le Bail. [NOMENCLATURE OF THE SPECIES OF THE *LEPORINUS MACULATUS*-GROUP AND RELATED FORMS FROM THE GUIANAS (PISCES, CHARACOIDEI, ANOSTOMIDAE).] *Rev. Suisse Zool.* 95(3):699-713. 1988. In French with English summ. FR 34(1)
[F-24220 Saint-Cyprien, France]

89-000674 Hardy, Graham S. DESCRIPTIONS OF A NEW GENUS AND TWO NEW SPECIES OF TRIPTERYGIID FISHES FROM NEW ZEALAND. *Natl. Mus. N.Z. Rec.* 3(5):47-58. 1987. FR 34(1)
[Natl. Mus., Private Bag, Wellington, New Zealand] *Forsterygion malcolmi* and *Obliquichthys maryannae*.

89-000675 Kottelat, M. AUTHORSHIP, DATES OF PUBLICATION, STATUS AND TYPES OF SPIX AND AGASSIZ'S BRAZILIAN FISHES. *Spixiana (Muench.)* 11(1):69-93. 1988. FR 34(1)
[Zool. Staatssammlung, Munchhausenstr. 21, D-8000 Munich 60, West Germany]

89-000676 Kottelat, Maurice and Chu Xin-Luo. REVISION OF *YUNNANILUS* WITH DESCRIPTIONS OF A MINIATURE SPECIES FLOCK AND SIX NEW SPECIES FROM CHINA (CYPRINIFORMES: HOMALOPTERIDAE). *Environ. Biol. Fishes* 23(1-2):65-93. 1988. FR 34(1)
[Zool. Staatssammlung, Munchhausenstr. 21, 8000 Munich 60, West Germany] *Y. parvus, Y. altus, Y. niger, Y. pachycephalus, Y. paludosus,* and *Y. macrogaster*.

89-000677 Kukuyev, E. I. and I. I. Konovalenko. TWO NEW SPECIES OF SHARKS OF THE GENUS *SCYMNODALATIAS* (DALATIIDAE) FROM THE NORTH ATLANTIC AND SOUTHEASTERN PACIFIC OCEANS. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)*

IDENTIFICATION, KEYS, CLASSIFICATION (CONTINUED)

89-000677 CONTINUED 28(1):122-126. 1988. FR 34(1)
[Atlantic Sci.-Res. Inst. Fish. & Oceanogr. - AtlantNIRO, Kaliningrad, USSR] *S. garricki* and *S. oligodon*.

89-000678 Lucas, Michael J. BOYD CREEK, UPSTATE NEW YORK. *Am. Currents* Feb. 1988:8-10. 1988. FR 34(1)
[419 West Ave., West Apts., E. Rochester, NY 14445]

89-000679 Markle, Douglas F. and Roberto Melendez C. A NEW SPECIES OF *LAEMONEMA* FROM OFF CHILE, WITH A REDESCRIPTION OF *L. GLOBICEPS* GILCHRIST (PISCES: MORIDAE). *Copeia* 1988(4):871-876. 1988. FR 34(1)
[Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331] *L. kongi*.

89-000680 McEachran, John D. and Tsutomu Miyake. A NEW SPECIES OF SKATE FROM THE GULF OF CALIFORNIA (CHONDRICHTHYES, RAJOIDEI). *Copeia* 1988(4):877-886. 1988. FR 34(1)
[Dep. Wildl. & Fish. Sci., Tex. A&M Univ., College Station 77843] *Raja cortezensis*.

89-000681 Parker, B. J. and C. Brousseau. STATUS OF THE AURORA TROUT, *SALVELINUS FONTINALIS TIMAGAMIENSIS*, A DISTINCT STOCK ENDEMIC TO CANADA. *Can. Field-Nat.* 102(1):87-91. 1988. In English with French summ. FR 34(1)
[19 Wichey, West Hill, ON, Canada M3C 2H5]

89-000682 Paulin, C. D. and C. D. Roberts. A NEW SPECIES OF THE ANTHIINE FISH GENUS *PLECTRANTHIAS* (PERCOMORPHA; SERRANIDAE) FROM THE KERMADEC ISLANDS OFF NORTHERN NEW ZEALAND. *Natl. Mus. N.Z. Rec.* 3(2):13-16. 1987. FR 34(1)
[Dep. Fish., Natl. Mus., Private Bag, Wellington, New Zealand] *P. bilaticlavia*.

89-000683 Renaud, Claud B. and Juraj Holcik. *LAMPETRA (EUDONTOMYZON) GRACILIS*, A SYNONYM OF *EUDONTOMYZON DANFORDI*. *Environ. Biol. Fishes* 23(1-2):127-130. 1988. FR 34(1)
[Dep. Biol., Univ. Ottawa, Ottawa, ON, Canada K1N 6N5]

89-000684 Renaud, Claude B. and Don E. McAllister. TAXONOMIC STATUS OF THE EXTINCT BANFF LONGNOSE DACE, *RHINICHTHYS CATARACTAE SMITHI*, OF BANFF NATIONAL PARK, ALBERTA. *Environ. Biol. Fishes* 23(1-2):95-113. 1988. FR 34(1)
[Dep. Biol., Univ. Ottawa, Ottawa, ON, Canada K1N 6N5]

89-000685 Seegers, Lothar. [A NEW RIVULID FROM BOLIVIA: *RIVULUS BOLIVIANUS* N. SP. (PISCES: CYPRINODONTIFORMES: RIVULIDAE).] *Bonn. Zool. Beitr.* 39(2/3):171-177. 1988. In German with English summ. FR 34(1)
[Grenzstr. 47b, 4220 Dinslaken, West Germany]

89-000686 Snyder, Darrel E. DESCRIPTION AND IDENTIFICATION OF SHORTNOSE AND ATLANTIC STURGEON LARVAE. *Am. Fish. Soc. Symp.* 5:7-30. 1988. FR 34(1)
[Larval Fish Lab., Colo. State Univ., Fort Collins 80523] *Acipenser brevirostrum* and *A. oxyrhynchus*.

89-000687 Starnes, Wayne C. REVISION, PHYLOGENY AND BIOGEOGRAPHIC COMMENTS ON THE CIRCUMTROPICAL MARINE PERCOID FISH FAMILY PRIACANTHIDAE. *Bull. Mar. Sci.* 43(2):117-203. 1988. FR 34(1)

IDENTIFICATION, KEYS, CLASSIFICATION (CONTINUED)

89-000687 CONTINUED
[c/o Div. Fishes, Natl. Mus. Nat. Hist., Smithsonian Inst., Washington, DC 20560] *Priacanthus fitchi, P.prolixus, P. sagittarius, P. zaiserae, Priacanthus* spp., *Pristigenys* spp., *Cookeolus* spp. and *Heteropriacanthus* spp.

89-000688 Swinney, Geoffrey N. and Theodore W. Pietsch. A NEW SPECIES OF THE CERATIOID ANGLERFISH GENUS *ONEIRODES* (PISCES: LOPHIIFORMES) FROM THE EASTERN NORTH ATLANTIC OFF MADEIRA. *Copeia* 1988(4):1054-1056. 1988. FR 34(1)
[Natl. Mus. Scotland, Chambers St., Edinburgh EH1 1JF, Scotland] *O. clarkei.*

89-000689 Tilak, Raj and Seema Jain. ON THE SYSTEMATIC STATUS OF *DANIO (DANIO) MENONI* BARMAN (PISCES: CYPRINIDAE). *J. Bombay Nat. Hist. Soc.* 84(3):693-694. 1987. FR 34(1)
[Zool. Surv. India, 218 Kaulagarh Rd., Dehra Dun, India]

89-000690 Walker, H. J., Jr. and R. H. Rosenblatt. PACIFIC TOADFISHES OF THE GENUS *PORICHTHYS* (BATRACHOIDIDAE) WITH DESCRIPTIONS OF THREE NEW SPECIES. *Copeia* 1988(4):887-904. 1988. FR 34(1)
[Scripps Inst. Oceanogr., Univ. Calif., A008, La Jolla 92093] *P. mimeticus, P. oculellus,* and *P. ephippiatus.*

PARASITES AND DISEASES-GENERAL

89-000691 Chonchuenchob, P.; S. Sumpawapol and A. Mearoh. DISEASES OF CAGE-CULTURED SEA BASS (*LATES CALCARIFER*) IN SOUTHWESTERN THAILAND. *ACIAR Proc. Ser., Australian Cent. Int. Agric. Res.* 20:194-197. 1987. From Protozool. Abstr. 12(9):2524. 1988. FR 34(1)
[Brakishwater Fish. Stn., La-ngu, Satul 91110, Thailand]

89-000692 Fournie, John W.; Steven S. Foss and John A. Couch. A MULTISPECIES SYSTEM FOR EVALUATION OF INFECTIVITY AND PATHOGENICITY OF MICROBIAL PEST CONTROL AGENTS IN NONTARGET AQUATIC SPECIES. *Dis. Aquat. Org.* 5(1):63-70. 1988. FR 34(1)
[U.S. Environ. Protection Agency, Environ. Res. Lab., Sabine Island, Gulf Breeze, FL 32561]

89-000693 Fujino, Yasuhiro and Akira Nagai. [THE INGESTION OF BOVINE SERUM ALBUMIN INTO THE SERUM THROUGH THE INTESTINE OF CHUM SALMON, *ONCORHYNCHUS KETA* WALBAUM.] *J. Fac. Mar. Sci. Technol. Tokai Univ.* No. 26. p. 155-166. 1988. In Japanese with English summ. FR 34(1)

89-000694 Leong Tak Seng and Wong See Yong. PARASITE FAUNA OF SEABASS, *LATES CALCARIFER* BLOCH, FROM THAILAND AND FROM FLOATING CAGE CULTURE IN PENANG, MALAYSIA. *Proc. Asian Fish. Forum* 1:251-254. 1986. FR 34(1)
[School Biol. Sci., Univ. Sains Malaysia, Penang, Malaysia]

89-000695 Natividad, J. M.; M. G. Bondad-Reantaso and J. R. Arthur. PARASITES OF NILE TILAPIA (*OREOCHROMIS NILOTICUS*) IN THE PHILIPPINES. *Proc. Asian Fish. Forum* 1:255-259. 1986. FR 34(1)
[Bur. Fish. & Aquat. Resour., 880 Quezon Ave., Quezon City, Metro Manila 3008, Philippines]

PARASITES AND DISEASES-GENERAL (CONTINUED)

89-000696 Regidor, S. E. and J. R. Arthur. PARASITES OF JUVENILE MILKFISH, *CHANOS CHANOS*. *Proc. Asian Fish. Forum* 1:261-264. 1986. FR 34(1)
[Bur. Fish. & Aquat. Resour., 880 Quezon Ave., Quezon City, Metro Manila 3008, Philippines]

89-000697 Shotts, E. B.; L. F. DelCorral and T. C. Hsu. YELLOW PIGMENTED BACTERIA ASSOCIATED WITH FISH DISEASES. *Proc. Int. Assoc. Aquat. Anim. Med.* 116-119. 1986. FR 34(1)
[Dep. Med. Microbiol., Coll. Vet. Med., Univ. Ga., Athens 30602]

89-000698 Starliper, C. E. and E. B. Shotts, Jr. STARCH GEL ELECTROPHORESIS OF SELECTED YELLOW PIGMENTED BACTERIA (YPB). *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):111-115. 1986. FR 34(1)
[Coll. Vet. Med., Univ. Ga., Athens 30602]

89-000699 Traxler, G. S. and G. R. Bell. PATHOGENS ASSOCIATED WITH IMPOUNDED PACIFIC HERRING *CLUPEA HARENGUS PALLASI*, WITH EMPHASIS ON VIRAL ERYTHROCYTIC NECROSIS (VEN) AND ATYPICAL *AEROMONAS SALMONICIDA*. *Dis. Aquat. Org.* 5(2):93-100. 1988. FR 34(1)
[Dep. Fish. & Oceans, Biol. Sci. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6]

BACTERIAL DISEASES

89-000700 Baxa, Dolores V.; Kenji Kawai and Riichi Kusuda. DETECTION OF *FLEXIBACTER MARITIMUS* BY FLUORESCENT ANTIBODY TECHNIQUE IN EXPERIMENTALLY INFECTED BLACK SEA BREAM FRY. *Fish Pathol.* 23(1):29-32. 1988. FR 34(1)
[Fish Dis. Lab., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan] *Acanthopagrus schlegeli*.

89-000701 Baxa, Dolores V.; Kenji Kawai and Riichi Kusuda. CHARACTERISTICS OF GLIDING BACTERIA ISOLATED FROM DISEASED FLOUNDER, *PARALICHTHYS OLIVACEUS*. *Proc. Asian Fish. Forum* 1:219-222. 1986. FR 34(1)
[Fish. Dis. Lab., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan]

89-000702 Cipriano, Rocco C. and James Bertolini. SELECTION FOR VIRULENCE IN THE FISH PATHOGEN *AEROMONAS SALMONICIDA*, USING COOMASSIE BRILLIANT BLUE AGAR. *J. Wildl. Dis.* 24(4):672-678. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish Health Res. Lab., Rt. 3, Box 700, Kearneysville, WV 25430] *Salvelinus fontinalis*.

89-000703 de Guzman, E.; E. B. Shotts and J. B. Gratzek. REVIEW OF BACTERIAL DISEASES OF AQUARIUM FISH. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):68-78. 1986. FR 34(1)
[Dep. Med. Microbiol., Coll. Vet. Med., Univ. Ga., Athens 30602]

89-000704 Graham (nee Chung), S.; A. H. Jeffries and C. J. Secombes. A NOVEL ASSAY TO DETECT MACROPHAGE BACTERICIDAL ACTIVITY IN FISH: FACTORS INFLUENCING THE KILLING OF *AEROMONAS SALMONICIDA*. *J. Fish Dis.* 11(5):389-396. 1988. FR 34(1)
[Secombes: Dep. Zool., Univ. Aberdeen, Tillydrone Ave., Aberdeen AB9 2TN, Scotland]

BACTERIAL DISEASES (CONTINUED)

89-000705 Hastings, Trevor Stewart. STUDIES ON THE PRODUCTION, PROPERTIES AND IMMUNOGENICITY OF EXTRACELLULAR FACTORS OF *AEROMONAS SALMONICIDA*. *Ph.D. dissertation, Univ. Aberdeen (Scotland)* 392p. 1986. From Diss. Abstr. Int. B Sci. Eng. 49(5):1482. 1988. Order No. BRDX81242. FR 34(1)
Oncorhynchus mykiss.

89-000706 Huang, Shiuh-Tyan and Cheng-I Liu. [EXPERIMENTAL STUDIES ON THE PATHOGENICITY OF *EDWARDSIELLA TARDA* AND *AEROMONAS HYDROPHILA* IN EEL, *ANGUILLA JAPONICA*.] *COA Fish. Ser.* No. 8. p. 40-55. 1986. In Chinese with English summ. FR 34(1)
[Dep. Vet. Med., Natl. Chung-Hsing Univ., Taiwan]

89-000707 Iwata, Kazuo; Tsukasa Nasu and Takesi Tabaru. [EFFICACY OF DRUG BATHING OF SODIUM NIFURSTYRANATE TO *VIBRIO* DISEASE OF JUVENILE AYU IN THE ARTIFICIAL SEED PRODUCTION.] *Fish Pathol.* 23(1):67-68. 1988. In Japanese. FR 34(1)
Plecoglossus altivelis.

89-000708 Jen-Leih Wu; Hsi-Chieh Lin; Ya-Li Hsu and Shiuh-Jie Tzou. [CONTROL OF MILKFISH VIBRIOSIS BY BACTERIOPHAGE AS10 WHICH INFECT *VIBRIO ANGUILLARUM*.] *COA Fish. Ser.* No. 8. p. 28-33. 1986. In Chinese with English summ. FR 34(1)
[Inst. Zool., Acad. Sinica, Nankang, Taipei, Taiwan 11529] *Chanos chanos*.

89-000709 Jorgensen, Trond. MICROBIOLOGICAL AND IMMUNOLOGICAL ASPECTS OF "HITRA DISEASE" OR COLDWATER VIBRIOSIS (A SUMMARY). *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station*. p. 46-52. 1986. FR 34(1)
[Found. Appl. Res., Univ. Tromso, Tromso, Norway] *Salmo salar*.

89-000710 Jorgensen, Trond. DISEASE AND VACCINES IN THE SALMON INDUSTRY. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station*. p. 38-45. 1986. FR 34(1)
[Found. Appl. Res., Univ. Tromso, Tromso, Norway]

89-000711 Kanai, Kinya; Seiichi Tawaki and Yousuke Uchida. [AN ECOLOGICAL STUDY OF *EDWARDSIELLA TARDA* IN FLOUNDER FARM.] *Fish Pathol.* 23(1):41-47. 1988. In Japanese with English summ. FR 34(1)
[Fac. Fish., Nagasaki Univ., 1-14 Bunkyo-machi, Nagasaki 852, Japan] *Paralichthys olivaceus*.

89-000712 Kusuda, Riichi; Kenji Ono and Fulvio Salati. CHANGES IN AGGLUTINATING ANTIBODY TITERS AND SERUM PROTEINS OF IMMUNIZED EELS. *Dis. Aquat. Org.* 5(2):87-92. 1988. FR 34(1)
[Fish Dis. Lab., Fac. Agric. Kochi Univ., Nankoku, Kochi 783, Japan] *Anguilla japonica*.

89-000713 Kusuda, Riichi; Mutsumi Itaoka and Kenji Kawai. [DRUG SENSITIVITY OF *PASTEURELLA PISCICIDA* STRAINS ISOLATED FROM CULTURED YELLOWTAIL FROM 1984 TO 1985.] *Nippon Suisan Gakkaishi* 54(9):1521-1526.

BACTERIAL DISEASES (CONTINUED)

89-000713 CONTINUED 1988. In Japanese with English summ. FR 34(1)
[Fish Dis. Lab., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan] *Seriola lalandei*.

89-000714 Lallier, R. and R. Higgins. BIOCHEMICAL AND TOXIGENIC CHARACTERISTICS OF *AEROMONAS* SPP. ISOLATED FROM DISEASED MAMMALS, MORIBUND AND HEALTHY FISH. *Vet. Microbiol.* 18(1):63-71. 1988. FR 34(1)
[Groupe Recherche Maladies Infectieuses Porc, Fac. Med. Vet., Univ. Montreal, St. Hyacinthe, PQ, Canada J2S 7C6]

89-000715 Lio-Po, Gilda and Roselyn Duremdez-Fernandez. THE PATHOGENICITY OF BACTERIA ASSOCIATED WITH TRANSPORT-STRESSED *CHANOS CHANOS* FINGERLINGS. *Proc. Asian Fish. Forum* 1:223-226. 1986. FR 34(1)
[SEAFDEC, P.O. Box 256, Iloilo City , Philippines]

89-000716 Liu, C. K. and J. H. Wang. [DRUG RESISTANCE OF FISH-PATHOGENIC BACTERIA--II. RESISTANCE OF *EDWARSIELLA TARDA* IN AQUACULTURE ENVIRONMENT.] *COA Fish. Ser.* No. 8. p. 56-67. 1986. In Chinese with English summ. FR 34(1)
[Inst. Vet. Med., Natl. Univ., Taipei, Taiwan]

89-000717 Noga, Edward J.; Jay F. Levine; Kimberly Townsend; Robert A. Bullis; Charles P. Carlson and Wayne T. Corbett. KIDNEY BIOPSY FOR THE DIAGNOSIS OF ENTERIC REDMOUTH DISEASE. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):14a-14b. 1986. FR 34(1)
[Dep. Companion Anim. & Special Species Med., School Vet. Med., N.C. State Univ., Raleigh 27605]

89-000718 Ong, Bessie. CHARACTERISTICS OF BACTERIA ISOLATED FROM DISEASED GROUPERS, *EPINEPHELUS SALMOIDES*. *Aquaculture* 73(1-4):7-17. 1988. FR 34(1)
[Mukahead Biol. Stn., Univ. Sains Malaysia, Penang, Malaysia]

89-000719 Pukkavesa, Chanja and Suppaluk Roomratanapan. [A PATHOLOGICAL STUDY IN FRESH WATER CATFISH, SNAKE HEAD FISH AND CAT FISH INFECTED WITH *AEROMONAS HYDROPHILA*.] *Kasetsart J.* 22(1):32-36. 1988. In Thai with English summ. FR 34(1)
[Dep. Anat., Fac. Vet. Med., Kasetsart Univ., Bangkok 10900, Thailand] *Pangasius satchi, Clarias batrachus,* and *Ophicephalus striatus* in Thailand.

89-000720 Saitanu, Kriengsag. *AEROMONAS HYDROPHILA* INFECTIONS IN THAILAND. *Proc. Asian Fish. Forum* 1:231-234. 1986. FR 34(1)
[Dep. Pathol., Fac. Vet. Sci., Chulalongkorn Univ., Bangkok 10500, Thailand]

89-000721 Sakata, Taizo and Muneaki Hattori. CHARACTERISTICS OF *VIBRIO VULNIFICUS* ISOLATED FROM DISEASED TILAPIA. *Fish Pathol.* 23(1):33-40. 1988. FR 34(1)
[Lab. Microbiol., Fac. Fish., Kagoshima Univ., Kagoshima 890, Japan] *Sarotherodon niloticus*.

89-000722 Shamsudin, Mariana Nor. BACTERIOLOGICAL EXAMINATION OF FINGERLINGS OF BIGHEAD CARP (*ARISTICHTHYS NOBILIS*) AND GRASS CARP (*CTENOPHARYNGODON IDELLA*) IMPORTED INTO MALAYSIA. *Proc. Asian Fish.*

BACTERIAL DISEASES (CONTINUED)

89-000722 CONTINUED *Forum* 1:235-240. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor Malaysia]

89-000723 Supriyadi, Hambali. THE SUSCEPTIBILITY OF VARIOUS FISH SPECIES TO INFECTION BY THE BACTERIUM *AEROMONAS HYDROPHILA*. *Proc. Asian Fish. Forum* 1:241-242. 1986. FR 34(1)
[Res. Inst. Freshwater Fish., Jl. Sempur No. 1, Bogor, Indonesia] *Cyprinus carpio, Osphronemus goramy,* and *Clarias batrachus*.

89-000724 Takemaru, Iwao and Riichi Kusuda. [*IN VITRO* ANTIBACTERIAL ACTIVITY OF JOSAMYCIN AGAINST *STREPTOCOCCUS* SP. AND VARIOUS FISH PATHOGENIC BACTERIA.] *Nippon Suisan Gakkaishi* 54(9):1527-1531. 1988. In Japanese with English summ. FR 34(1)
[Fish Dis. Lab., Fac. Agric., Kochi Univ., Nankoku, Kochi 783, Japan]

89-000725 Ventura, M. T. and J. M. Grizzle. LESIONS ASSOCIATED WITH NATURAL AND EXPERIMENTAL INFECTIONS OF *AEROMONAS HYDROPHILA* IN CHANNEL CATFISH, *ICTALURUS PUNCTATUS* (RAFINESQUE). *J. Fish Dis.* 11(5):397-407. 1988. FR 34(1)
[Grizzle: Dep. Fish. & Allied Aquacult., Auburn Univ., Auburn, AL 36849]

89-000726 Waagbo, R.; K. Sandnes; S. Espelid and O. Lie. HAEMATOLOGICAL AND BIOCHEMICAL ANALYSES OF ATLANTIC SALMON, *SALMO SALAR* L., SUFFERING FROM COLDWATER VIBRIOSIS ('HITRA DISEASE'). *J. Fish Dis.* 11(5):417-423. 1988. FR 34(1)
[Inst. Nutr., P.O. Box 4285, N-5028 Bergen, Norway]

89-000727 Weeks, B. A.; S. R. Sommer and H. P. Dalton. CHEMOTACTIC RESPONSE OF FISH MACROPHAGES TO *LEGIONELLA PNEUMOPHILA*: CORRELATION WITH PATHOGENICITY. *Dis. Aquat. Org.* 5(1):35-38. 1988. FR 34(1)
[Inst. Mar. Sci., School Mar. Sci., Coll. William & Mary, Gloucester Point, VA 23062]

89-000728 Yamanoi, Hideo; Kazuo Momoyama; Hideki Yasunobu and Kiyokuni Muroga. [*VIBRIO ANGUILLARUM* INFECTION IN FLOUNDER (*PARALICHTHYS OLIVACEUS*) FINGERLINGS.] *Fish Pathol.* 23(1):69-70. 1988. In Japanese. FR 34(1)

89-000729 Yasunaga, Norio and Susumu Yasumoto. THERAPEUTIC EFFECT OF FLORFENICOL ON EXPERIMENTALLY INDUCED PSEUDOTUBERCULOSIS IN YELLOWTAIL. *Fish Pathol.* 23(1):1-5. 1988. FR 34(1)
[Lab. Aquacult., Nagasaki Pref. Inst. Fish., Nomozaki, Nagasaki Pref., 851-05, Japan] *Seriola lalandei*.

89-000730 Yasunaga, Norio and Jun-ichiro Tsukahara. DOSE TITRATION STUDY OF FLORFENICOL AS A THERAPEUTIC AGENT IN NATURALLY OCCURRING PSEUDOTUBERCULOSIS. *Fish Pathol.* 23(1):7-12. 1988. FR 34(1)
[Lab. Aquacult., Nagasaki Pref. Inst. Fish., Nomozaki, Nagasaki Pref., 851-05, Japan] *Seriola lalandei*.

FUNGAL DISEASES

89-000731 Lightner, D.; R. M. Redman; L. Mohney; J. Sinski and D. Priest. A RENAL MYCOSIS OF AN ADULT HYBRID RED TILAPIA, *OREOCHROMIS MOSSAMBICUS* X *O. HORNORUM*, CAUSED BY THE IMPERFECT FUNGUS, *PAECILOMYCES MARQUANDII*. *J. Fish Dis.* 11(5):437-440. 1988. FR 34(1)
[Environ. Res. Lab., 2061 E. Airport Dr., Univ. Ariz., Tucson 85706]

89-000732 Tung, Ming-Chen; Shiuh-Tyan Huang and Shinn-Shyong Tsai. [AN EPIZOOTIC IN LARGE MOUTH BASS, *MICROPTERUS SALMOIDES* LACEPEDE, CAUSED BY *ICHTHYOPHONUS* IN FRESH WATER POND IN SOUTHERN TAIWAN.] *COA Fish. Ser.* No. 8. p. 6-13. 1986. In Chinese with English summ. FR 34(1)
[Dep. Vet. Med., Natl. Pingtung Inst. Agric., Pingtung, Taiwan]

89-000733 Wood, Sarah E. THE MONITORING AND IDENTIFICATION OF *SAPROLEGNIA PARASITICA* AND ITS INFECTION OF SALMONID FISH. *Ph.D. dissertation, Univ. Newcastle Upon Tyne (England)* 259p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1573-1574. 1988. Order No. BRDX82289. FR 34(1)
Salmo trutta.

PROTOZOAN DISEASES

89-000734 Baska, F. and K. Molnar. BLOOD STAGES OF *SPHAEROSPORA* SPP. (MYXOSPOREA) IN CYPRINID FISHES. *Dis. Aquat. Org.* 5(1):23-28. 1988. FR 34(1)
[Vet. Med. Res. Inst., Hungarian Acad. Sci., P.O. Box 18, H-1581 Budapest, Hungary] Data for 14 species.

89-000735 Clayton, G. M. and D. J. Price. *ICHTHYOPHTHIRIUS MULTIFILIIS*: STANDARDIZATION OF THE INFECTION-RESPONSE MODEL IN *AMECA SPLENDENS* (MILLER & FITZSIMONS). *J. Fish Dis.* 11(5):371-377. 1988. FR 34(1)
[Dep. Biol. Sci., Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA, England]

89-000736 Fournie, John W. PARASITIC DISEASES OF AQUARIUM FISHES. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):79-85. 1986. FR 34(1)
[Gulf Coast Res. Lab., Ocean Springs, MS 39564]

89-000737 Hedrick, R. P.; M. L. Kent and R. J. Toth. MYXOSPOREANS DETECTED IN NON-SALMONID FISHES FROM WATERS ENZOOTIC FOR PROLIFERATIVE KIDNEY DISEASE (PKD). *Bull. European Assoc. Fish Pathol.* 6(2):32-35. 1986. From Protozool. Abstr. 12(9):2519. 1988. FR 34(1)
[Aquacult. & Fish. Prog., Dep. Med., School Vet. Med., Univ. Calif., Davis 95616] *Gila bicolor*, *Gasterosteus aculeatus*, and *Oncorhynchus mykiss* in California.

89-000738 Mitchell, Andrew J. and Charlie E. Smith. *AMPHILEPTUS BRANCHIARUM* (PROTOZOA: AMPHILEPTIDAE) IN POND REARED FISH IN ARKANSAS. *J. Wildl. Dis.* 24(4):642-646. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Fish Farming Exp. Stn., Stuttgart, AR 72160] *Notemigonus crysoleucas*, *Ictalurus punctatus*, *Pimephales promelas*, and *Carassius auratus*.

PROTOZOAN DISEASES (CONTINUED)

89-000739 Subasinghe, Rohana P. and Christina Sommerville. ACQUIRED IMMUNITY OF *OREOCHROMIS MOSSAMBICUS* TO THE CILIATE ECTOPARASITE *ICHTHYOPHTHIRIUS MULTIFILIIS* (FOUQUET). *Proc. Asian Fish. Forum* 1:279-283. 1986. FR 34(1)
[Dep. Zool., Univ. Colombo, Colombo 3, Sri Lanka]

89-000740 Thomas, P. T. and P. T. K. Woo. *CRYPTOBIA SALMOSITICA:* AN *IN VITRO* AND *IN VIVO* STUDY ON THE MECHANISM OF ANAEMIA IN INFECTED RAINBOW TROUT, *SALMO GAIRDNERI* RICHARDSON. *J. Fish Dis.* 11(5):425-431. 1988. FR 34(1)
[Woo: Dep. Zool., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-000741 Upton, Steve J.; Scott Lyell Gardner and Donald W. Duszynski. THE ROUND STINGRAY, *UROLOPHUS HALLERI* (RAJIFORMES: DASYATIDAE), AS A HOST FOR *EIMERIA CHOLLAENSIS* SP.NOV. (APICOMPLEXA: EIMERIIDAE). *Can. J. Zool.* 66(9):2049-2052. 1988. In English with French summ. FR 34(1)
[Div. Biol., Ackert Hall, Kans. State Univ., Manhattan 66506]

VIRAL DISEASES

89-000742 Brady, Y. J. and J. A. Plumb. SEROLOGICAL COMPARISON OF GOLDEN SHINER VIRUS, CHUM SALMON VIRUS, REOVIRUS 13P2 AND CATFISH REOVIRUS. *J. Fish Dis.* 11(5):441-443. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Ala. Exp. Stn., Auburn Univ., Auburn 36849] *Notemigonus crysoleucas, Oncorhynchus keta, Ictalurus punctatus, Salmo gairdneri,* and *Lepomis macrochirus.*

89-000743 Kimura, T. and M. Yoshimizu. ISOLATION OF A NEW RHABDOVIRUS FROM CULTURED HIRAME (JAPANESE FLOUNDER, *PARALICHTHYS OLIVACEUS*) IN JAPAN. *Proc. Asian Fish. Forum* 1:323-326. 1986. FR 34(1)
[Lab. Microbiol., Fac. Fish., Hokkaido Univ., Minato, Hakodate 041, Japan]

89-000744 Mangunwiryo, Hariyadi. ASPECTS OF INFECTIOUS PANCREATIC NECROSIS (IPN) VIRUS INFECTIONS IN FARMED FISH. *Ph.D. dissertation, Council Natl. Academic Awards (United Kingdom)* 243p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1484. 1988. Order No. BRDX82218. FR 34(1)
Oncorhynchus mykiss.

89-000745 Margenau, Terry L.; Stephen T. Schram and William H. Blust. LYMPHOCYSTIS IN A WALLEYE POPULATION. *Trans. Am. Fish. Soc.* 117(3):308-310. 1988. FR 34(1)
[Dep. Nat. Resour., P.O. Box 309, Spooner, WI 54801] *Stizostedion vitreum* in Wisconsin.

89-000746 Mellergaard, S. and B. Bloch. HERPESVIRUS-LIKE PARTICLES IN ANGELFISH *PTEROPHYLLUM ALTUM. Dis. Aquat. Org.* 5(2):151-155. 1988. FR 34(1)
[Danish Inst. Fish. & Mar. Res., Fish Dis. Lab., c/o Royal Vet. & Agric. Univ., Bulowsvej 13, DK-1870 Frederiksberg C, Denmark]

89-000747 Nishimura, Teiichi; Yoshirou Ishida; Shouzou Yamamoto; Hideo Fukuda; Nobuaki Okamoto and Tokuo Sano. [INFECTIOUS HAEMATOPOIETIC NECROSIS: VIRUS TITER IN THE FISH BODIES, REARING WATER AND FECES OF

VIRAL DISEASES (CONTINUED)

89-000747 CONTINUED ARTIFICIALLY INFECTED RAINBOW TROUT FRY.] *Fish Pathol.* 23(1):13-17. 1988. In Japanese with English summ. FR 34(1)
[Lab. Fish. Pathol., Tokyo Univ. Fish., Konan 4, Minato-ku, Tokyo 108, Japan] *Oncorhynchus mykiss.*

89-000748 Olesen, N. J.; P. E. Vestergard Jorgensen; B. Bloch and S. Mellergaard. ISOLATION OF AN IPN-LIKE VIRUS BELONGING TO THE SEROGROUP II OF THE AQUATIC BIRNAVIRUSES FROM DAB, *LIMANDA LIMANDA* L. *J. Fish Dis.* 11(5):449-451. 1988. FR 34(1)
[Natl. Vet. Lab., Hangovej 2, 8200 Aarhus, Denmark]

89-000749 Saitanu, Kriengsag; Somatat Wongsawang; Boonmee Sunyasootcharee and Somphong Sahaphong. SNAKEHEAD FISH VIRUS ISOLATION AND PATHOGENICITY STUDIES. *Proc. Asian Fish. Forum* 1:327-330. 1986. FR 34(1)
[Dep. Vet. Pathol., Fac. Vet. Sci., Chulalongkorn Univ., Thailand] *Dermogenus pustillus, Ophicephalus striatus, Channa micropeltes, Oxyeleotris marmoratus, Trichopsis vittatus, Betta splendens,* and *Trichogaster trichopterus* in Thailand.

89-000750 Schlotfeldt, H. J. and W. Ahne. EPIZOOTICS IN BROWN TROUT (*SALMO TRUTTA FARIO*) CAUSED BY VHSV-F1. *J. Appl. Ichthyol.* 4(3):147-148. 1988. In English with German and French summ. FR 34(1)
[State Fish. Control Serv. Lower Saxony & Fish Health Serv., Hannover, West Germany]

89-000751 Wechsler, S. J. PRACTICAL ASPECTS OF INFECTIOUS PANCREATIC NECROSIS VIRUS IN STRIPED BASS. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):105-110. 1986. FR 34(1)
[Fla. Coop. Fish. & Wildl. Res. Unit, 117 Newins-Ziegler Hall, Univ. Fla., Gainesville 32611] *Morone saxatilis.*

89-000752 Yoshimizu, Mamoru; Tetsuichi Nomura; Teruhiko Awakura and Takahisa Kimura. [INCIDENCE OF FISH PATHOGENIC VIRUSES AMONG ANADROMOUS SALMONID IN NORTHERN PART OF JAPAN (1976-1986).] *Sci. Rep. Hokkaido Salmon Hatchery* No. 42. p. 1-20. 1988. In Japanese with English summ. FR 34(1)
[Lab. Microbiol., Fac. Fish., Hokkaido Univ., Minato, 3-1-1, Hakodate 041, Japan] *Oncorhynchus mykiss, O. masou, O. keta, O. gorbuscha,* and *O. nerka.*

OTHER DISEASES AND PARASITES

89-000753 Anderson, I. G. and Faizah Shaharom-Harrison. *SANGUINICOLA ARMATA* INFECTION IN BIGHEAD CARP (*ARISTICHTHYS NOBILIS*) AND GRASS CARP (*CTENOPHARYNGODON IDELLA*) IMPORTED IN MALAYSIA. *Proc. Asian Fish. Forum* 1:247-250. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor, Malaysia]

89-000754 Anstensrud, M. and T. A. Schram. HOST AND SITE SELECTION BY LARVAL STAGES AND ADULTS OF THE PARASITIC COPEPOD *LERNAEENICUS SPRATTAE* (SOWERBY) (COPEPODA, PENNELLIDAE) IN THE OSLOFJORD. *Hydrobiologia* 167/168:587-595. 1988. FR 34(1)
[Biol. Inst., Sect. Mar. Zool. & Chem., Univ. Oslo, P.O. Box 1064, Blindern 0316 Oslo 3, Norway] *Sprattus sprattus.*

OTHER DISEASES AND PARASITES (CONTINUED)

89-000755 Arandas, Rego A. PROTEOCEPHALIDEA FROM AMAZONIAN FRESHWATER FISHES: NEW SYSTEMATIC ARRANGEMENT FOR THE SPECIES DESCRIBED BY WOODLAND AS *ANTHOBOTHRIUM* (TETRAPHYLLIDEA). *Acta Amazonica* 14(1-2):86-94. 1984. In English with Portuguese summ. FR 34(1)
[Dep. Helminthol., Inst. Oswaldo Cruz, C.P. 926, Rio de Janeiro, Brazil]

89-000756 Buchmann, Kurt. EPIDEMIOLOGY OF PSEUDODACTYLOGYROSIS IN AN INTENSIVE EEL-CULTURE SYSTEM. *Dis. Aquat. Org.* 5(2):81-85. 1988. FR 34(1)
[Dep. Hyg. & Microbiol., Royal Vet. & Agric. Univ., Bulowsvej 13, DK-1870 Frederiksberg C, Denmark] *Anguilla anguilla.*

89-000757 Butorina, T. E. [ON THE ROLE OF LAMPREYS IN THE LIFE CYCLES OF NEMATODES INFECTING SALMONIDS ON KAMCHATKA.] *Mar. Biol. (Vladivostok)* 1988(4):66-67. 1988. In Russian with English summ. FR 34(1)
[Lab. Popul. Biol., Inst. Mar. Biol., Far East Branch, Acad. Sci. USSR, Vladivostok 690022, USSR] *Lampetra japonica.*

89-000758 Cannon, L. R. G. and R. J. G. Lester. TWO TURBELLARIANS PARASITIC IN FISH. *Dis. Aquat. Org.* 5(1):15-22. 1988. FR 34(1)
[Queensland Mus., Queensland Cultural Cent., P.O. Box 300, South Brisbane, Qld. 4101, Australia] *Scarus rivulatus, Platycephalus fuscus,* and *Pelates quadrilineatus* in Australia.

89-000759 Chandra, C. V. and R. A. Khan. NEMATODE INFESTATION OF FILLETS FROM ATLANTIC COD, *GADUS MORHUA,* OFF EASTERN CANADA. *J. Parasitol.* 74(6):1038-1040. 1988. FR 34(1)
[466 Newfoundland Dr., St. John's, NF, Canada]

89-000760 Cone, D. K. and R. Cusack. A STUDY OF *GYRODACTYLUS COLEMANENSIS* (MIZELLE AND KRITSKY, 1967) AND *GYRODACTYLUS SALMONIS* (YIN AND SPROSTON, 1948) (MONOGENEA) PARASITIZING CAPTIVE SALMONIDS IN NOVA SCOTIA. *Can. J. Zool.* 66(2):409-415. 1988. In English with French summ. FR 34(1)
[Dep. Biol., St. Mary's Univ., Halifax, NS, Canada B3H 3C3]

89-000761 de Oliveira Malta, Jose Celso. [FISH OF LAKES VARZEA AND JANAUACA (AMAZONIA) AND THEIR RELATION WITH ECTOPARASITIC CRUSTACEANS.] *Acta Amazonica* 14(3-4):355-372. 1984. In Portuguese with English summ. FR 34(1)

89-000762 Dixon, Beverly A. THE IMMUNE RESPONSE IN FISH--A BRIEF REVIEW. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):86-91. 1986. FR 34(1)
[Dep. Biol., Calif. State Coll., Bakersfield 93311-1099]

89-000763 Donoghue, S. *GASTEROSTEUS ACULEATUS,* A NEW BRITISH HOST FOR THE METACERCARIAE OF *CRYPTOCOTYLE CONCAVUM* (DIGENEA). *J. Fish Biol.* 33(4):657-658. 1988. FR 34(1)
[Life Sci. Dep., Univ. London Goldsmiths' Coll., Rachel McMillan Bldg., Creek Rd., London SE8 3BU, England]

89-000764 Dumont, H. J.; Geoffrey A. Boxshall and H. Kurt Schminke, editors. THIRD INTERNATIONAL CONFERENCE ON COPEPODA, HELD AT THE BRITISH MUSEUM (NATURAL HISTORY), LONDON, 1987. *Hydrobiologia* 167/168:639p.

OTHER DISEASES AND PARASITES (CONTINUED)

89-000764 CONTINUED 1988. FR 34(1)
Selected papers indexed in this issue of *Fisheries Review*.

89-000765 Durborow, Robert M.; Wilmer A. Rogers and Phillip H. Klesius. INTERACTION OF BASS TAPEWORM, *PROTEOCEPHALUS AMBLOPLITIS*, AND *NEOECHINORHYNCHUS* SP. (ACANTHOCEPHALA) IN LARGEMOUTH BASS, *MICROPTERUS SALMOIDES*. *J. Parasitol.* 74(6):1056-1059. 1988. FR 34(1)
[Miss. Coop. Ext. Serv., Dep. Wildl. & Fish., P.O. Box 142, Stoneville 38776]

89-000766 Dyer, William G.; Ernest H. Williams, Jr. and Lucy Bunkley Williams. *PSEUDOPECOELUS SESOKOENSIS* SP. N. (TREMATODA: OPECCELIDAE) FROM THE INTESTINE OF *PLECTORHYNCHUS PICTUS* (VALENCIENNES) OF OKINAWA, JAPAN. *Trans. Ill. State Acad. Sci.* 81(1-2):185-188. 1988. FR 34(1)
[Dep. Zool., South. Ill. Univ., Carbondale 62901]

89-000767 Fournie, J. W.; J. J. Black and A. D. Vethaak. EXOCRINE PANCREATIC ADENOMAS IN THE GREATER REDHORSE, *MOXOSTOMA VALENCIENNESI* JORDAN, AND IN THE EUROPEAN FLOUNDER, *PLATICHTHYS FLESUS* (L.). *J. Fish Dis.* 11(5):445-448. 1988. FR 34(1)
[U.S. Environ. Protection Agency, Environ. Res. Lab., Gulf Breeze, FL 32561]

89-000768 Grizzle, John M.; Marshall R. Putnam; John W. Fournie and John A. Couch. MICROINJECTION OF CHEMICAL CARCINOGENS INTO SMALL FISH EMBRYOS: EXOCRINE PANCREATIC NEOPLASM IN *FUNDULUS GRANDIS* EXPOSED TO *N*-METHYL-*N'*-NITRO-*N*-NITROSOGUANIDINE. *Dis. Aquat. Org.* 5(2):101-105. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Auburn Univ., Auburn, AL 36849]

89-000769 Herman, Roger Lee. SQUAMOUS CELL CARCINOMA IN RAINBOW SMELT *OSMERUS MORDAX*. *Dis. Aquat. Org.* 5(1):71-73. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish Health Res. Lab., Box 700, Kearneysville, WV 25430]

89-000770 Hogans, W. E. REDESCRIPTION OF *PENNELLA SAGITTA* (COPEPODA: PENNELLIDAE) FROM *HISTRIO HISTRIO* (PISCES) IN THE NORTH-WEST ATLANTIC OCEAN WITH A PROVISIONAL REVIEW OF THE GENUS *PENNELLA*. *J. Zool. (Lond.)* 216(2):379-390. 1988. FR 34(1)
[Atlantic Reference Cent., Huntsman Mar. Sci. Cent., St. Andrews, NB, Canada E0G 2X0]

89-000771 Hoole, D. and C. Arme. *LIGULA INTESTINALIS* (CESTODA: PSEUDOPHYLLIDEA): PHOSPHORYLCHOLINE INHIBITION OF FISH LEUCOCYTE ADHERENCE. *Dis. Aquat. Org.* 5(1):29-33. 1988. FR 34(1)
[Parisitol. Res. Lab., Univ. Keele, Keele, Staffordshire ST5 5BG, England] *Rutilus rutilus*.

89-000772 Jones, J. B. ZOOGEOGRAPHY OF PARASITIC COPEPODA OF THE NEW ZEALAND REGION. *Hydrobiologia* 167/168:623-627. 1988. FR 34(1)
[Fish. Res. Cent., P.O. Box 297, Wellington, New Zealand]

89-000773 Kiskaroly, Mihaly. [INVESTIGATION OF PARASITOPHAUNA IN THE FISHES IN FRESHWATER PONDS OF BOSNIA-HERCEGOVINA. I. CYPRINID PONDS A. MONOGENIC TREMATODES 5.] *Veterinaria (Sarajevo)* 36(3-4):391-397. 1987.

OTHER DISEASES AND PARASITES (CONTINUED)

89-000773 CONTINUED In Serbo-Croatian with English summ. FR 34(1)
Hypophthalmichthys molitrix and *Ctenopharyngodon idella*.

89-000774 Langdon, Jeremy S. HAEMOSIDEROSIS IN *PLATYCEPHALUS BASSENSIS* AND *DIODON NICTHEMERUS* IN SOUTH-EAST AUSTRALIAN COASTAL WATERS. *Aust. J. Mar. Freshwater Res.* 37(5):587-593. 1986. FR 34(1)
[Australian Fish Health Reference Lab., Regional Vet. Lab., P.O. Box 388, Benalla, Vic. 3672, Australia]

89-000775 Lasee, Becky A., Daniel R. Sutherland and MaryJo E. Moubry. HOST-PARASITE RELATIONSHIPS BETWEEN BURBOT (*LOTA LOTA*) AND ADULT *SALMINCOLA LOTAE* (COPEPODA). *Can. J. Zool.* 66(11):2459-2463. 1988. In English with French summ. FR 34(1)
[Sutherland: Dep. Biol., Wartburg Coll., Waverly, IA 50677]

89-000776 Lassiere, Olivia L. and D. W. T. Crompton. EVIDENCE FOR POST-CYCLIC TRANSMISSION IN THE LIFE-HISTORY OF *NEOECHINORHYNCHUS RUTILI* (ACANTHOCEPHALA). *Parasitology* 97(2):339-343. 1988. FR 34(1)
[Dep. Zool., Univ. Glasgow, Glasgow G12 8QQ, Scotland] *Salmo trutta*, *S. gairdneri*, and *Gasterosteus aculeatus*.

89-000777 Lassiere, Olivia L. HOST-PARASITE RELATIONSHIPS BETWEEN LARVAL *SIALIS LUTARIA* (MEGALOPTERA) AND *NEOECHINORHYNCHUS RUTILI* (ACANTHOCEPHALA). *Parasitology* 97(2):331-338. 1988. FR 34(1)
[Dep. Zool., Univ. Glasgow, Glasgow G12 8QQ, Scotland] *Salmo trutta*.

89-000778 Lio-Po, Gilda; Roselyn Duremdez-Fernandez and Antonio Villaluz. DISEASE INVESTIGATION OF TRANSPORTED *CHANOS CHANOS* STOCKED IN LAGUNA LAKE, PHILIPPINES. *Proc. Asian Fish. Forum* 1:227-230. 1986. FR 34(1)
[SEAFDEC, P.O. Box 256, Iloilo City , Philippines]

89-000779 Mac, Michael J. and Stephen B. Smith. EXPECTED TUMOR INCIDENCE RATES IN FISH FROM CLEAN SITES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-34. 1988. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent.-Great Lakes, 1451 Green Rd., Ann Arbor, MI 48105]

89-000780 Maccubbin, Alexander E. and Noreen Ersing. TUMORS IN FISH FROM THE DETROIT RIVER. *Int. Assoc. Great Lakes Res. Conf.* 31:A-34. 1988. Abstract only. FR 34(1)
[Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY 14263] *Moxostoma* spp. *Ictalurus nebulosus*, *Catastomus commersoni*, *Amia calva*, and *Stizostedion vitreum vitreum*.

89-000781 Measures, Lena N. EPIZOOTIOLOGY, PATHOLOGY, AND DESCRIPTION OF *EUSTRONGYLIDES TUBIFEX* (NEMATODA: DIOCTOPHYMATOIDEA) IN FISH. *Can. J. Zool.* 66(10):2212-2222. 1988. In English with French summ. FR 34(1)
[Dep. Zool., Univ. Alberta, Edmonton, AB, Canada T6G 2E9] *Lepomis gibbosus*, *Ambloplites rupestris*, and *Perca flavescens* in Canada.

89-000782 Nagasawa, Kazuya; Yoshihiro Imai and Kyoichi Ishida. LONG-TERM CHANGES IN THE POPULATION SIZE AND GEOGRAPHICAL DISTRIBUTION OF *PENNELLA* SP. (COPEPODA) ON THE SAURY, *COLOLABIS SAIRA*, IN THE WESTERN NORTH

OTHER DISEASES AND PARASITES (CONTINUED)

89-000782 CONTINUED PACIFIC OCEAN AND ADJACENT SEAS. *Hydrobiologia* 167/168:571-577. 1988. FR 34(1)
[Fish. Exp. Stn., Hakodate, Hokkaido 042, Japan]

89-000783 Nikolaeva, V. M. and T. N. Mordvinova. [*SKRJABINOZOUM DELAMUREI* SP. N. (TREMATODA, DIDYMOZOIDAE) FROM *CUBICEPS PAUCIRADIATUS* (NOMEIDAE) OF EAST ATLANTIC.] *Zool. Zh.* 67(8):1238-1239. In Russian with English summ. FR 34(1)
[Inst. Biol. South. Seas, Ukrainian SSR Acad. Sci., Sevastopol, USSR]

89-000784 Okihiro, M. S. CHROMATOPHOROMAS IN TWO SPECIES OF HAWAIIAN BUTTERFLYFISH, *CHAETODON MULTICINCTUS* AND *C. MILIARIS*. *Vet. Pathol.* 25(6):422-431. 1988. FR 34(1)
[Dep. Pathol., School Vet. Med., Univ. Calif., Davis 95616]

89-000785 Parukhin, A. M. [THE HELMINTH FAUNA OF THE COMMERCIAL FISHES FROM SAYA-DE-MALYA BANK (THE INDIAN OCEAN).] *Biol. Nauki (Mosc.)* 296(8):34-37. 1988. In Russian with English summ. FR 34(1)

89-000786 Pilarczyk, Andrzej. INVESTIGATIONS ON INTENSIFICATION OF CARP FINGERLING PRODUCTION. 2. STATE OF HEALTH OF FINGERLINGS. *Acta Hydrobiol.* 29(3):291-299. 1987. In English with Polish summ. FR 34(1)
[Polish Acad. Sci., Exp. Fish Culture Stn. Golysz, 43-422 Chybie, Poland] *Cyprinus carpio.*

89-000787 Poulin, Robert and Gerard J. FitzGerald. WATER TEMPERATURE, VERTICAL DISTRIBUTION, AND RISK OF ECTOPARASITISM IN JUVENILE STICKLEBACKS. *Can. J. Zool.* 66(9):2002-2005. 1988. In English with French summ. FR 34(1)
[Fitzgerald: Dep. Biol., Univ. Laval, Sainte-Foy, PQ, Canada G1K 7P4] *Gasterosteus aculeatus* and *G. wheatlandi.*

89-000788 Rubec, L. A. *NEOBRACHIELLA ROSTRATA* (COPEPODA: LERNAEOPODIDAE) ON THE GILLS OF THE GREENLAND HALIBUT, *REINHARDTIUS HIPPOGLOSSOIDES* FROM THE GULF OF ST. LAWRENCE. *Can. J. Zool.* 66(2):504-507. 1988. In English with French summ. FR 34(1)
[355 Route de la mer, Sainte-Flaire, PQ, Canada G0J 2L0]

89-000789 Shaharom-Harrison, Faizah. THE REPRODUCTIVE BIOLOGY OF *DACTYLOGYRUS NOBILIS* (MONOGENEA: DACTYLOGYRIDAE) FROM THE GILLS OF BIGHEAD CARP (*ARISTICHTHYS NOBILIS*). *Proc. Asian Fish. Forum* 1:265-268. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor Malaysia]

89-000790 Shariff, M. and C. Sommerville. THE LIFE CYCLES OF *LERNAEA POLYMORPHA* AND *L. CYPRINACEA*. *Proc. Asian Fish. Forum* 1:273-278. 1986. FR 34(1)
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor Malaysia] *Aristichthys nobilis* and *Carassius auratus.*

89-000791 Shariff, M. and C. Sommerville. IDENTIFICATION AND DISTRIBUTION OF *LERNAEA* SPP. IN PENINSULAR MALAYSIA. *Proc. Asian Fish. Forum* 1:269-272. 1986. FR 34(1)

OTHER DISEASES AND PARASITES (CONTINUED)

89-000791 CONTINUED
[Fac. Fish. & Mar. Sci., Univ. Pertanian Malaysia, Serdang, Selangor Malaysia]

89-000792 Smith, Stephen B.; Michael J. Mac; Alexander E. Maccubbin and John C. Harshbarger. EXTERNAL ABNORMALITIES AND INCIDENCE OF TUMORS IN FISH COLLECTED FROM THREE GREAT LAKES AREAS OF CONCERN. *Int. Assoc. Great Lakes Res. Conf.* 31:A-51. 1988. Abstract only. FR 34(1)
[Natl. Fish. Res. Cent.-Great Lakes, U.S. Fish & Wildl. Serv., 1451 Green Rd., Ann Arbor, MI 48105] *Ictalurus nebulosus*.

89-000793 Thoney, Dennis A. DEVELOPMENTAL VARIATION OF *HETERAXINOIDES XANTHOPHILIS* (MONOGENEA) ON HOSTS OF DIFFERENT SIZES. *J. Parasitol.* 74(6):999-1003. 1988. FR 34(1)
[Inst. Mar. Sci., School Mar. Sci., Coll. William & Mary, Gloucester Point, VA 23062] *Leiostomus xanthurus*.

89-000794 Thune, Ronald L. and John P. Hawks. PATHOGENESIS OF PROLIFERATIVE GILL DISEASE IN CHANNEL CATFISH. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):2. 1986. Abstract only. FR 34(1)
[Dep. Vet. Med., La. State Univ. Agric. Exp. Stn., Baton Rouge 70803]

89-000795 Wheeler, Terry A. and G. J. Klassen. *THYLACICLEIDUS SERENDIPITUS* N.GEN., N.SP. (MONOGENEA: ANCYROCEPHALIDAE) FROM THE INDONESIAN FRESHWATER PUFFER *TETRAODON FLUVIATILIS* (TETRAODONTIFORMES: TETRAODONTIDAE). *Can. J. Zool.* 66(9):1928-1930. 1988. In English with French summ. FR 34(1)
[Dep. Environ. Biol., Univ. Guelph, Guelph, ON, Canada N1G 2W1]

89-000796 Whitfield, P. J.; M. W. Pilcher; H. J. Grant and J. Riley. EXPERIMENTAL STUDIES ON THE DEVELOPMENT OF *LERNAEOCERA BRANCHIALIS* (COPEPODA: PENNELLIDAE): POPULATION PROCESSES FROM EGG PRODUCTION TO MATURATION ON THE FLATFISH HOST. *Hydrobiologia* 167/168:579-586. 1988. FR 34(1)
[Dep. Biol., King's Coll., Univ. London, Campden Hill Rd., London W8, England] *Platichthys flesus* and *Merlangius merlangus* in England.

89-000797 Yoshinaga, Tomoyoshi; Kazuo Ogawa and Hisatsugu Wakabayashi. DEVELOPMENTAL MORPHOLOGY OF *HYSTEROTHYLACIUM HAZE* (NEMATODA: ANISAKIDAE). *Fish Pathol.* 23(1):19-28. 1988. FR 34(1)
[Dep. Fish., Fac. Agric., Univ. Tokyo, Yayoi 1-1-1, Bunkyo-ku, Tokyo 113, Japan] *Acanthogobius flavimanus*.

POLLUTION

89-000798 Armstrong, R. W. and R. J. Sloan. PCB PATTERNS IN HUDSON RIVER FISH: I. RESIDENT FRESHWATER SPECIES. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 304-324. 1988. FR 34(1)
[Chem. Dep., Russel Stage Coll., Troy, NJ 12180]

89-000799 Barth, H., editor. REVERSIBILITY OF ACIDIFICATION. *Elsevier Appl. Sci. Publ.* 175p. 1987. FR 34(1)
[Comm. European Communities, DG XII/G-1, Rue de la Loi 200, B-1049 Brussels, Belgium] Selected chapters indexed in this issue of *Fisheries Review*.

POLLUTION (CONTINUED)

89-000800 Bergstrom, S. SIMULATION OF pH, ALKALINITY AND RESIDENCE TIME IN NATURAL RIVER SYSTEMS. *In: Reversibility of Acidification. H. Barth, editor.* p. 156-164. 1987. FR 34(1)
[Swedish Meteorol. & Hydrol. Inst., S-601 76 Norrkoping, Sweden]

89-000801 Blanck, Hans and Sten-Ake Wangberg. VALIDITY OF AN ECOTOXICOLOGICAL TEST SYSTEM: SHORT-TERM AND LONG-TERM EFFECTS OF ARSENATE ON MARINE PERIPHYTON COMMUNITIES IN LABORATORY SYSTEMS. *Can. J. Fish. Aquat. Sci.* 45(10):1807-1815. 1988. In English with French summ. FR 34(1)
[Dep. Plant Physiol., Univ. Goteborg, S-413 19 Goteborg, Sweden]

89-000802 Cook, P. M.; D. W. Kuehl; A. R. Batterman and K. B. Lodge. PCDD AND PCDF PARTITIONING FROM LAKE ONTARIO SEDIMENT TO FISH. *Int. Assoc. Great Lakes Res. Conf.* 31:A-10. 1988. Abstract only. FR 34(1)
[Environ. Res. Lab., USEPA, Duluth, MN 55804]

89-000803 DeWalle, David R.; William E. Sharpe and Pamela J. Edwards. BIOGEOCHEMISTRY OF TWO APPALACHIAN DECIDUOUS FOREST SITES IN RELATION TO EPISODIC STREAM ACIDIFICATION. *Water Air Soil Pollut.* 40(1/2):143-156. 1988. FR 34(1)
[School For. Resour. & Environ. Resour. Res. Inst., Pa. State Univ., University Park 16802]

89-000804 Eary, L. E.; E. A. Jenne; L. W. Vail and D. C. Girvin. NUMERICAL MODELS FOR PREDICTING WATERSHED ACIDIFICATION. *Arch. Environ. Contam. Toxicol.* 18(1/2):29-53. 1989. FR 34(1)
[Battelle, Pac. Northwest Lab., Environ. Sci. Dep., P.O. Box 999, Richland, WA 99352]

89-000805 Fitzsimons, John D. and V. W. Cairns. FISH DISEASES IN HAMILTON HARBOUR, A HIGHLY INDUSTRIALIZED URBAN EMBAYMENT. *Int. Assoc. Great Lakes Res. Conf.* 31:A-16. 1988. Abstract only. FR 34(1)
[Fish. & Oceans Canada, Great Lakes Lab. Fish. & Aquat. Sci., Burlington, ON, Canada L7R 4A6] *Cyprinus carpio, Ictalurus nebulosus,* and *Catostomus commersoni.*

89-000806 Fitzsimons, John D. THE UTILITY OF THE SLIMY SCULPIN AS A BIOINDICATOR OF ENVIRONMENTAL CONDITIONS. *Int. Assoc. Great Lakes Res. Conf.* 31:A-16. 1988. Abstract only. FR 34(1)
[Fish. & Oceans Canada, Great Lakes Lab. Fish. & Aquat. Sci., Burlington, ON, Canada L7R 4A6] *Cottus cognatus.*

89-000807 Gee, A. S. and J. H. Stoner. A REVIEW OF THE CAUSES AND EFFECTS OF ACIDIFICATION OF SURFACE WATERS IN WALES AND POTENTIAL MITIGATION TECHNIQUES. *Arch. Environ. Contam. Toxicol.* 18(1/2):121-130. 1989. FR 34(1)
[Welsh Water Auth., S. W. Dist., Hawthorn Rise, Haverfordwest, Dyfed SA61 2BH, Wales]

89-000808 Ghose, B. B.; M. K. Mukhopadhyay and M. M. Bagchi. STATUS OF ZINC POLLUTION IN THE HOOGHLY ESTUARY AND THE RELATED TOXICITY TO FISH AND FISH FOOD ORGANISMS. *Proc. Natl. Seminar Pollut. Control Environ. Manage.* 1985(17-19):194-199. 1985. From Paryavaran Abstr. 5(1):8801-077. 1988. FR 34(1)
[Cent. Inland Fish. Res. Inst., Barrackpore 743101, India]

POLLUTION (CONTINUED)

89-000809 Giass, Gary E.; John A. Sorensen and George Rapp, Jr. CAUSES AND MITIGATION OF TOXIC CONTAMINATION OF THE FISHERY IN THE SAINT LOUIS RIVER/DULUTH (MN)-SUPERIOR (WI) HARBOR, FISHERY NURSERY AREA FOR THE WESTERN ARM OF LAKE SUPERIOR. *Int. Assoc. Great Lakes Res. Conf.* 31:A-19. 1988. Abstract only. FR 34(1)
[Environ. Res. Lab., USEPA, Duluth, MN 55804]

89-000810 Hadjinicolaou, J. and L. D. Spraggs. AVOIDANCE TESTS WITH A PLATING INDUSTRIAL EFFLUENT. *Adv. Environ. Sci. Technol.* No. 22. p. 111-124. 1988. FR 34(1)
[Dep. Civil Eng. & Appl. Mechanics, McGill Univ., Montreal, PQ, Canada] *Oncorhynchus mykiss.*

89-000811 Hesselberg, Robert J.; James P. Hickey; David A. Nortrup and Wayne A. Willford. CONTAMINANT RESIDUES IN THE BLOATER (*COREGONUS HOYI*) OF LAKE MICHIGAN, 1969-1986. *Int. Assoc. Great Lakes Res. Conf.* 31:A-24. 1988. Abstract only. FR 34(1)
[Natl. Fish. Res. Cent.-Great Lakes, U.S. Fish & Wildl. Serv., 1451 Green Rd., Ann Arbor, MI 48105]

89-000812 Hodson, Peter V. BIOCHEMICAL INDICATORS IN FISH OF CHEMICAL EXPOSURE IN HAMILTON HARBOUR. *Int. Assoc. Great Lakes Res. Conf.* 31:A-24. 1988. Abstract only. FR 34(1)
[GLLFAS, Bayfield Inst., Canada Cent. Inland Waters, Box 5050, Burlington, ON, Canada L7R 4A6]

89-000813 Hodson, Peter V. CHEMICAL CONTAMINATION OF HAMILTON HARBOUR. *Int. Assoc. Great Lakes Res. Conf.* 31:A-24. 1988. Abstract only. FR 34(1)
[GLLFAS, Bayfield Inst., Canada Cent. Inland Waters, Box 5050, Burlington, ON, Canada L7R 4A6]

89-000814 Howells, Gwyneth. ACIDITY MITIGATION IN A SMALL UPLAND LAKE. *In: Reversibility of Acidification. H. Barth, editor.* p. 104-111. 1987. FR 34(1)
[Dep. Appl. Biol., Univ. Cambridge, 7 College Rd., London E21, England]

89-000815 Huckabee, John W.; Jack S. Mattice; Louis F. Pitelka; Donald B. Porcella and Robert A. Goldstein. AN ASSESSMENT OF THE ECOLOGICAL EFFECTS OF ACIDIC DEPOSITION. *Arch. Environ. Contam. Toxicol.* 18(1/2):3-27. 1989. FR 34(1)
[Electric Power Res. Inst., P.O. Box 10412, Palo Alto, CA 94303]

89-000816 Jardine, C. G. and Steve E. Hrudey. THRESHOLD DETECTION VALUES OF POTENTIAL FISH TAINTING SUBSTANCES FROM OIL SANDS WASTEWATERS. *Water Sci. Technol.* 20(8/9):19-25. 1988. FR 34(1)
[Environ. Eng. & Sci. Program, Dep. Civil Eng., Univ. Alberta, Edmonton, AB, Canada T6G 2G7] *Stizostedion vitreum* in Canada.

89-000817 Joshi, H. C. PESTICIDES RESIDUE MONITORING IN THE BHAGIRATHI HOOGHLY STRETCH OF THE GANGA RIVER SYSTEM. *Proc. Natl. Semin. Polln. Contr. Environ. Manage.* 1985(17-19):80-85. 1985. From Paryavaran Abstr. 5(1):8801-161. 1988. FR 34(1)
[Cent. Inland Fish. Res. Inst., Indian Council Agric. Res., Barrackpore 743101, India]

POLLUTION (CONTINUED)

89-000818 Kelso, J. R. M. and J. H. Lipsit. YOUNG-OF-THE-YEAR FISH COMMUNITY IN NINE LAKES, VARYING IN pH, ON THE CANADIAN SHIELD. *Can. J. Fish. Aquat. Sci.* 45(Suppl. 1):121-126. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Great Lakes Lab. Fish. & Aquat. Sci., Ship Canal Post Office, Canal Dr., Sault Ste. Marie, ON, Canada P6A 1P0]

89-000819 Kerekes, J. and B. Freedman. CHARACTERISTICS OF THREE ACIDIC LAKES IN KEJIMKUJIK NATIONAL PARK, NOVA SCOTIA, CANADA. *Arch. Environ. Contam. Toxicol.* 18(1/2):183-200. 1989. FR 34(1)
[Environ. Canada, Wildl. Serv., c/o Dep. Biol., Dalhousie Univ., Halifax, NS, Canada B3H 4J1]

89-000820 Koepp, Stephen J.; Edward D. Santoro and Gerard DiNardo. HEAVY METALS IN FINFISH AND SELECTED MACROINVERTEBRATES OF THE LOWER HUDSON RIVER ESTUARY. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 273-286. 1988. FR 34(1)
[Biol. Dep., Montclair State Coll., Upper Montclair, NJ 07043] *Morone saxatilis* and *Micropterus salmoides* in New York.

89-000821 Krueger, Henry O.; John P. Ward and Stanley H. Anderson. A RESOURCE MANAGER'S GUIDE FOR USING AQUATIC ORGANISMS TO ASSESS WATER QUALITY FOR EVALUATION OF CONTAMINANTS. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(20):45p. 1988. Available from U.S. Fish & Wildl. Serv. Natl. Ecol. Res. Cent., 2627 Redwing Rd., Creekside One, Fort Collins, CO 80526-2899. FR 34(1)
[FWS Coop. Res. Unit, Univ. Wyo., P.O. Box 3166, Univ. Stn., Laramie 82071]

89-000822 Kullenberg, G., editor. OVERALL REPORT ON THE BALTIC OPEN SEA EXPERIMENT 1977 (BOSEX). *Int. Counc. Explor. Sea Coop. Res. Rep.* No. 127. 83p. 1984. FR 34(1)
[Inst. Fysisk Oceanogr., Haraldsgade 6, DK-2200 Copenhagen N, Denmark]

89-000823 Kwain, W. and J. R. M. Kelso. RISK TO SALMONIDS OF WATER QUALITY IN THE TURKEY LAKES WATERSHED AS DETERMINED BY BIOASSAY. *Can. J. Fish. Aquat. Sci.* 45(Suppl. 1):127-135. 1988. In English with French summ. FR 34(1)
[Kelso: Dep. Fish. & Oceans, Great Lakes Lab. Fish. & Aquat. Sci., Ship Canal Post Office, Canal Dr., Sault Ste. Marie, ON, Canada P6A 1P0]

89-000824 Linlokken, Arne. VERTICAL DISTRIBUTION OF BROWN TROUT *(SALMO TRUTTA)* AND PERCH *(PERCA FLUVIATILIS)* IN AN ACIDIFIED LAKE. *Water Air Soil Pollut.* 40(1/2):203-213. 1988. FR 34(1)
[Hedmark Cty., Environ. Admin., N-2301 Hamar, Norway]

89-000825 Martin, J. F.; L. W. Bennett and W. H. Graham. OFF-FLAVOR IN THE CHANNEL CATFISH *(ICTALURUS PUNCTATUS)* DUE TO 2-METHYLISOBORNEOL AND ITS DEHYDRATION PRODUCTS. *Water Sci. Technol.* 20(8/9):99-105. 1988. FR 34(1)
[Coll. Vet. Med., Drawer V, Miss. State Univ., Mississippi State 39762]

89-000826 Mattsoff, Leona and Mikko Nikinmaa. DEHYDROABIETIC ACID (DHAA) DOES NOT INHIBIT BILIRUBIN CONJUGATION IN THE LIVER OF RAINBOW TROUT. *Bull. Environ. Contam. Toxicol.* 41(6):894-901. 1988. FR 34(1)
[Dep. Zool., Div. Physiol., Univ. Helsinki, Arkadiankatu 7, SF-00100 Helsinki, Finland] *Oncorhynchus mykiss.*

89-000827 Matuszek, J. E. and G. L. Beggs. FISH SPECIES RICHNESS IN RELATION TO LAKE AREA, pH, AND OTHER ABIOTIC FACTORS IN ONTARIO LAKES. *Can. J. Fish. Aquat. Sci.* 45(11):1931-1941. 1988. In English with French

POLLUTION (CONTINUED)

89-000827 CONTINUED summ. FR 34(1)
[Ontario Minist. Nat. Resour., Fish. Branch, 99 Wellesley St. W., Toronto, ON, Canada M7A 1W3]

89-000828 McColl, N. P. A MODEL TO PREDICT THE LEVEL OF ARTIFICIAL RADIONUCLIDES IN ENVIRONMENTAL MATERIALS IN THE SEVERN ESTUARY AND THE BRISTOL CHANNEL. *J. Fish Biol.* 33(Suppl. A):79-84. 1988. FR 34(1)
[Natl. Radiol. Protection Board, Didcot, Oxon OX11 0RQ, England]

89-000829 McCormick, J. Howard; Gertrude N. Stokes and Roger O. Hermanutz. OOCYTE ATRESIA AND REPRODUCTIVE SUCCESS IN FATHEAD MINNOWS (*PIMEPHALES PROMELAS*) EXPOSED TO ACIDIFIED HARDWATER ENVIRONMENTS. *Arch. Environ. Contam. Toxicol.* 18(1/2):207-214. 1989. FR 34(1)
[U.S. Environ. Protection Agency, Envrion. Res. Lab., 6201 Congdon Blvd., Duluth, MN 55804]

89-000830 Miller, Terence J. ACCUMULATION OF CONTAMINANTS BY FISH AND WILDLIFE AT A CONFINED DISPOSAL FACILITY IN THE GREAT LAKES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-38. 1988. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., Fed. Bldg., Fort Snelling, Twin Cities, MN 55111] *Cyprinus carpio.*

89-000831 Mukhopadhyay, M. K.; B. B. Ghosh; H. C. Joshi; M. M. Bagchi and H. C. Karmakar. BIOMONITORING OF POLLUTION IN THE HOOGHLY ESTUARY BY USING *RITA RITA* AS TEST FISH. *J. Environ. Biol.* 8(4):297-306. 1987. From Paryavaran Abstr. 5(1):8801-087. 1988. FR 34(1)
[Cent. Inland Fish. Res. Inst., Barrackpore, West Bengal, India]

89-000832 Overnell, J.; T. C. Fletcher and R. McIntosh. THE APPARENT LACK OF EFFECT OF SUPPLEMENTARY DIETARY ZINC ON ZINC METABOLISM AND METALLOTHIONEIN CONCENTRATIONS IN THE TURBOT, *SCOPHTHALMUS MAXIMUS* (LINNAEUS). *J. Fish Biol.* 33(4):563-570. 1988. FR 34(1)
[Dunstaffnage Mar. Res. Lab., P.O. Box 3, Oban, Argyll PA34 4AD, Scotland]

89-000833 Paasivirta, Jaakko; Helena Palm; Raija Paukku; Jonathan Akhabuhaya and Martin Lodenius. CHLORINATED INSECTICIDE RESIDUES IN TANZANIAN ENVIRONMENT. TANZADRIN. *Chemosphere* 17(10):2055-2062. 1988. FR 34(1)
[Dep. Chem., Univ. Tyvaskyla Kyllikinkatu 1-3, SF-40100 Jyvaskyla, Finland]

89-000834 Persson, P.-E.; F. B. Whitfield and T. Motohiro, editors. 2ND INTERNATIONAL SYMPOSIUM ON OFF-FLAVOURS IN THE AQUATIC ENVIRONMENT, KAGOSHIMA, JAPAN 12-16 OCTOBER 1987. *Water Sci. Technol.* 20(8/9):292p. 1988. FR 34(1)

89-000835 Persson, Per-Edvin. AQUATIC OFF-FLAVOURS - PAST, PRESENT AND FUTURE. *Water Sci. Technol.* 20(8/9):283-288. 1988. FR 34(1)
[Univ. Helsinki, Dep. Limnol., Viikki, SF-00710 Helsinki, Finland]

89-000836 Rada, Ronald G.; James G. Wiener; Michael R. Winfrey and David E. Powell. RECENT INCREASES IN ATMOSPHERIC DEPOSITION OF MERCURY TO NORTH-CENTRAL WISCONSIN LAKES INFERRED FROM SEDIMENT ANALYSES. *Arch. Environ. Contam. Toxicol.* 18(1/2):175-181. 1989. FR 34(1)
[River Studies Cent., Dep. Biol. & Microbiol., Univ. Wis., La Crosse 54601]

POLLUTION (CONTINUED)

89-000837 Raj, Paul Samuel. INCIDENCE OF METHYL MERCURY IN FISH FROM STANLEY RESERVOIR (METTUR), TAMIL NADU, INDIA. *J. Environ. Biol.* 8(2):151-155. 1987. From Paryavaran Abstr. 5(1):8801-188. 1988. FR 34(1)
[School Energy, Environ. Natl. Resour., Madurai Kamaraj Univ., Madurai 625021, India]

89-000838 Rathbun, J. E.; V. E. Smith; R. G. Kreis, Jr. and S. A. Rudolph. PCB ACCUMULATION IN CAGED BENTHIC AND PELAGIC ORGANISMS. *Int. Assoc. Great Lakes Res. Conf.* 31:A-45. 1988. Abstract only. FR 34(1)
[Raytheon Serv. Co., Grosse Ile, MI 48138]

89-000839 Rebsdorf, A. and N. Thyssen. EVIDENCE OF STREAM ACIDIFICATION IN DENMARK AS CAUSED BY ACID DEPOSITION. *In: Reversibility of Acidification. H. Barth, editor.* p. 165-168. 1987. FR 34(1)
[Natl. Agency Environ. Protection, Freshwater Lab., Lysbrogade 52, DK-8600 Silkeborg, Denmark]

89-000840 Rossmann, Ronald; David J. Jude and James A. Barres. TRACE METALS IN LAKE MICHIGAN NEARSHORE FISH. *Int. Assoc. Great Lakes Res. Conf.* 31:A-48. 1988. Abstract only. FR 34(1)
[Great Lakes Res. Div., Univ. Mich., Ann Arbor 48109]

89-000841 Sato, T.; N. Matsuoka; H. Sugihara; H. Akazawa and T. Motohiro. PETROLEUM-LIKE OFF-FLAVOUR IN SEASONED HERRING ROE. *Water Sci. Technol.* 20(8/9):49-53. 1988. FR 34(1)
[Res. Lab., Nichiro Fish. Co., Ltd., 7-36-5, Kurihama, Yokosuka, Kanagawa 239, Japan]

89-000842 Seip, H. M.; N. Christophersen and S. Rustad. CHANGES IN STREAMWATER CHEMISTRY AND FISHERY STATUS FOLLOWING REDUCED SULPHUR DEPOSITION: TENTATIVE PREDICTIONS BASED ON THE "BIRKENES MODEL". *In: Reversibility of Acidification. H. Barth, editor.* p. 149-155. 1987. FR 34(1)
[Cent. Ind. Res., Box 350 Blindern, 0314 Oslo 3, Norway]

89-000843 Siraishi, Hiroaki; Donna S. Carter and Ronald A. Hites. IDENTIFICATION AND DETERMINATION OF ANTHROPOGENIC ORGANIC COMPOUNDS IN FISHES FROM THE DETROIT RIVER. *Int. Assoc. Great Lakes Res. Conf.* 31:A-50. 1988. Abstract only. FR 34(1)
[School Public & Environ. Affairs & Dep. Chem., Indiana Univ., Bloomington 47405]

89-000844 Skwarzec, Bogdan. ACCUMULATION OF ^{210}Po IN SELECTED SPECIES OF BALTIC FISH. *J. Environ. Radioact.* 8(2):111-118. 1988. FR 34(1)
[Inst. Oceanol., Polish Acad. Sci., 81-967 Sopot, Powstancow Warszawy 55, Poland] *Clupea harengus, Gadus morhua,* and *Pleuronectes flesus.*

89-000845 Sloan, R. J. and R. W. Armstrong. PCB PATTERNS IN HUDSON RIVER FISH: II. MIGRANT AND MARINE SPECIES. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 325-350. 1988. FR 34(1)
[NYDEC, 50 Wolf Rd., Albany, NY 12233]

89-000846 Suffet, I. H.; B. M. Brady; J. H. M. Bartels; G. Burlingame; J. Mallevialle and T. Yohe. DEVELOPMENT OF THE FLAVOR PROFILE ANALYSIS METHOD INTO A STANDARD METHOD FOR SENSORY ANALYSIS OF WATER. *Water Sci. Technol.*

POLLUTION (CONTINUED)

89-000846 CONTINUED 20(8/9):1-9. 1988. FR 34(1)
[Environ. Studies Inst., Drexel Univ., Philadelphia, PA 19104]

89-000847 Sutcliffe, D. W.; T. R. Carrick; A. C. Charmier; T. Gledhill; J. G. Jones; A. F. H. Marker and L. G. Willoughby. ACIDIFICATION PROBLEMS OF FRESHWATERS: TROPHIC RELATIONSHIPS. *In: Reversibility of Acidification. H. Barth, editor.* p. 64-66. 1987. FR 34(1)
[Freshwater Biol. Assoc., Ferry House, Ambleside, Cumbria LA22 0LP, England]

89-000848 Swenson, William A.; J. Howard McCormick; Timothy D. Simonson; Kathleen M. Jensen and John G. Eaton. EXPERIMENTAL ACIDIFICATION OF LITTLE ROCK LAKE (WISCONSIN): FISH RESEARCH APPROACH AND EARLY RESPONSES. *Arch. Environ. Contam. Toxicol.* 18(1/2):167-174. 1989. FR 34(1)
[Div. Sci. & Math., Univ. Wis., Superior 54880] *Ambloplites rupestris, Micropterus samoides, Perca flavescens,* and *Pomoxis nigromaculatus.*

89-000849 Tangen, Karl. RED TIDES AND NOXIOUS ALGAE IN NORWAY - THE PROBLEMS. *In: Proceedings of International Conference: Norway - The Development of its Fish Farming Industry. Sherkin Island Marine Station.* p. 69-81. 1986. FR 34(1)
[OCEANOR, N-7002 Trondheim, Norway]

89-000850 Whitehead, P. G.; C. Neal and R. Neale. MODELLING STREAM ACIDITY IN U.K. CATCHMENTS. *In: Reversibility of Acidification. H. Barth, editor.* p. 126-141. 1987. FR 34(1)
[Inst. Hydrol., Wallingford, Oxon OX10 8BB, England]

89-000851 Whitelaw, K. and M. J. Andrews. THE EFFECTS OF SEWAGE SLUDGE DISPOSAL TO SEA--THE OUTER THAMES ESTUARY, U.K. *Water Sci. Technol.* 20(6/7):183-191. 1988. FR 34(1)
[WRc Environ., Medmenham Lab., Henley Rd., Medmenham, P.O. Box 16, Marlow, Bucks SL7 2HD, England]

89-000852 Whitfield, F. B. CHEMISTRY OF OFF-FLAVOURS IN MARINE ORGANISMS. *Water Sci. Technol.* 20(8/9):63-74. 1988. FR 34(1)
[CSIRO, Div. Food Res., P.O. Box 52, North Ryde, N.S.W. 2113, Australia]

89-000853 Witters, H. E.; J. H. D. Vangenechten; S. Van Puymbroeck and O. L. J. Vanderborght. PHYSIOLOGICAL STUDY ON THE RECOVERY OF RAINBOW TROUT (*SALMO GAIRDNERI* RICHARDSON) FROM ACID AND AL STRESS. *In: Reversibility of Acidification. H. Barth, editor.* p. 67-75. 1987. FR 34(1)
[Belgian Nuclear Cent., Dep. Biol., Boeretang 200, B-2400 Mol, Belgium]

TOXICOLOGY; BIOASSAYS

89-000854 Aruna, D. and V. Gopal. TOXIC EFFECT OF SUBLETHAL LEVEL OF MERCURY ON HAEMATOLOGICAL PARAMETERS. *Indian J. Environ. Health* 29(1):52-56. 1987. From Paryavaran Abstr. 5(1):8801-135. 1988. FR 34(1)
[Zool. Dep., Bharathiar Univ., Coimbatore 641046, India] *Tilapia mossambica.*

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000855 Bakthavathsalam, R.; N. Murugaboopathy and P. Karnan. EFFECTS OF CARBOFURAN ON CERTAIN TISSUES OF THE FISH *LEPIDOCEPHALICHTHYS THERMALIS*. *Environ. Ecol.* 5(2):216-219. 1987. From Paryavaran Abstr. 5(1):8801-137. 1988. FR 34(1)
[Zool. Dep., AVVM Sri Pushpam Coll., Poondi 613503 TN, India]

89-000856 Bashamohiden Md.; K. Obilesu and Reddy P. Malla. BEHAVIORAL CHANGES INDUCED BY MALATHION AND METHYL PARATHION IN THE FRESHWATER FISH *TILAPIA MOSSAMBICA*. *Environ. Ecol.* 5(2):403-404. 1987. From Paryavaran Abstr. 5(1):8801-138. 1988. FR 34(1)
[Zool. Dep., Sri Krishnadevaraya Univ., Anantpur 515003, India]

89-000857 Bengtsson, A.; B. E. Bengtsson and G. Lithner. VERTEBRAL DEFECTS IN FOURHORN SCULPIN, *MYOXOCEPHALUS QUADRICORNIS* L., EXPOSED TO HEAVY METAL POLLUTION IN THE GULF OF BOTHNIA. *J. Fish Biol.* 33(4):517-529. 1988. FR 34(1)
[Dep. Anim. Ecol., Univ. Umea, S-901 87 Umea, Sweden]

89-000858 Benson, W. H.; C. F. Watson; K. N. Baer and R. A. Stackhouse. EVALUATION OF HEMATOLOGICAL PARMETERS AND GILL ATPase AS INDICATORS OF CADMIUM EXPOSURE TO FISH. *Am. Chem. Soc. Natl. Meeting* 194:198. 1987. Abstract only. FR 34(1)
[Div. Pharmacol. & Toxicol., School Pharmacy, Northeast La. Univ., Monroe 71209-0470] *Notemigonus crysoleucas*, *Lepomis macrochirus*, and *Pimephales promelas*.

89-000859 Bernstein, Joan W. and Stella M. Swanson. HEMATOLOGICAL PARAMETERS AND PARASITE LOAD IN WILD FISH WITH ELEVATED RADIONUCLIDE LEVELS. *Adv. Environ. Sci. Technol.* No. 22. p. 47-64. 1988. FR 34(1)
[Dep. Appl. Microbiol. & Food Sci., Univ. Saskatchewan, Saskatoon, SN, Canada] *Catostomus commersoni*, *Salvelinus namaycush*, and *Coregonus clupeaformis* in Canada.

89-000860 Buckley, J. A. and G. A. Yoshida. BIOAVAILABILITY OF CU AND CD TO JUVENILE SALMON AS AFFECTED BY COMPLEXATION WITH SEWAGE TREATMENT PLANT EFFLUENT. *Am. Chem. Soc. Natl. Meeting* 194:229. 1987. Abstract only. FR 34(1)
[Metro Water Quality Lab., 322 W. Ewing St., Seattle, WA 98119]

89-000861 Campbell, P. G. C. and C. M. Neville. MECHANISMS OF ALUMINUM TOXICITY TO AQUATIC BIOTA. *Am. Chem. Soc. Natl. Meeting* 194:136. 1987. Abstract only. FR 34(1)
[Univ. Quebec, INRS-Eau, C.P. 7500, Ste-Foy, PQ, Canadá G1V 4C7]

89-000862 Chan, K. M.; W. S. Davidson and G. L. Fletcher. METALLOTHIONEIN MESSENGER RNA: POTENTIAL MOLECULAR INDICATOR OF METAL EXPOSURE. *Adv. Environ. Sci. Technol.* No. 22. p. 89-109. 1988. FR 34(1)
[Mar. Sci. Res. Lab., Memorial Univ. Newfoundland, St. John's, NF, Canada] *Pseudopleuronectes americanus*.

89-000863 Chandra, Bai R. HISTOPATHOLOGIC EFFECTS OF ACUTE TOXICITY OF COPPER IN *SAROTHERODON MOSSAMBICUS* (PETERS, 1852). *Indian Zool.* 11(1&2):123-125. 1987. From Paryavaran Abstr. 5(1):8801-147. 1988. FR 34(1)
[Zool. Dep., Bharathiar Univ., Coimbatore 641046, India]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000864 Cleveland, L.; Edward E. Little; Raymond H. Wiedmeyer and Denny R. Buckler. CHRONIC NO-OBSERVED-EFFECT CONCENTRATIONS FOR BROOK TROUT EXPOSED TO ALUMINUM IN DILUTE ACIDIC WATER. *Am. Chem. Soc. Natl. Meeting* 194:137. 1987. Abstract only. FR 34(1)
[U. S. Fish & wildl. Serv., Natl. Fish. Contam. Res. Cent., Rt. 1, Columbia, MO 65201] *Salvelinus fontinalis*.

89-000865 Craik, J. C. A. and S. M. Harvey. A PRELIMINARY ACCOUNT OF METAL LEVELS IN EGGS OF FARMED AND WILD ATLANTIC SALMON AND THEIR RELATION TO EGG VIABILITY. *Aquaculture* 73(1-4):309-321. 1988. FR 34(1)
[Scottish Mar. Biol. Assoc., Dunstaffnage Mar. Res. Lab., P.O. Box 3, Oban, Argyll PA34 4AD, Scotland] *Salmo salar*.

89-000866 Dauble, D. D.; D. A. Dankovic; C. S. Abernethy and R. H. Gray. INDUCTION OF HEPATIC ARYL HYDROCARBON HYDROXYLASE ACTIVITY IN RAINBOW TROUT (*SALMO GAIRDNERI*) EXPOSED TO COAL LIQUIDS. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol*. 91(2):431-435. 1988. FR 34(1)
[Pac. Northwest Lab., P.O. Box 999, Richland, WA 99352]

89-000867 Davies, Patrick H. and William C. Gorman. EFFECTS OF CHEMICAL EQUILIBRIA AND KINETICS ON THE BIOAVAILABILITY AND TOXICITY OF CADMIUM TO RAINBOW TROUT. *Am. Chem. Soc. Natl. Meeting* 194:228. 1987. Abstract only. FR 34(1)
[Div. Wildl., 317 W. Prospect, Fort Collins, CO 80526] *Salmo gairdneri*.

89-000868 de Boer, Jacob. CHLOROBIPHENYLS IN BOUND AND NON-BOUND LIPIDS OF FISHES; COMPARISON OF DIFFERENT EXTRACTION METHODS. *Chemosphere* 17(9):1803-1810. 1988. FR 34(1)
[Netherlands Inst. Fish. Invest., P.O. Box 68, 1970 AB IJmuiden, Netherlands]

89-000869 de Boer, Jacob. TRENDS IN CHLOROBIPHENYL CONTENTS IN LIVERS OF ATLANTIC COD (*GADUS MORHUA*) FROM THE NORTH SEA, 1979-1987. *Chemosphere* 17(9):1811-1819. 1988. FR 34(1)
[Netherlands Inst. Fish. Invest., P.O. Box 68, 1970 AB IJmuiden, Netherlands]

89-000870 Donnarumma, Lucia; Giovanna De Angelis; Franco Gramenzi and Luciano Vittozzi. XENOBIOTIC METABOLIZING ENZYME SYSTEMS IN TEST FISH. III. COMPARATIVE STUDIES OF LIVER CYTOSOLIC GLUTHIONE *S*-TRANFERASES. *Ecotoxicol. Environ. Saf*. 16(2):180-186. 1988. FR 34(1)
[Vittozzi: Lab. Comp. Toxicol. & Ecotoxicol., Ist. Superiore Sanita, Viale Regine Elena, 299-00161 Rome, Italy] *Brachidanio rerio, Cyprinus carpio, Oncorhynchus mykiss, Lepomis macrochirus,* and *Poecilia reticulata*.

89-000871 Dutton, M. D.; H. S. Majewski and J. F. Klaverkamp. BIOCHEMICAL STRESS INDICATORS IN FISH FROM LAKES NEAR A METAL SMELTER. *Int. Assoc. Great Lakes Res. Conf*. 31:A-14. 1988. Abstract only. FR 34(1)
[Freshwater Inst., Winnipeg, MB, Canada R3T 2N6]

89-000872 Eidt, D. C.; J. E. Hollebone; W. L. Lockhart; P. D. Kingsbury; M. C. Gadsby and W. R. Ernst. PESTICIDES IN FORESTRY AND AGRICULTURE: EFFECTS ON AQUATIC HABITATS. *Adv. Environ. Sci. Technol*. No. 22. p. 245-283. 1989. FR 34(1)
[For. Serv.-Maritimes, Fredericton, NB, Canada] *Oncorhynchus mykiss* in Canada.

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000873 Ellgaard, E. G. and J. L. Guillot. KINETIC ANALYSIS OF THE SWIMMING BEHAVIOUR OF BLUEGILL SUNFISH, *LEPOMIS MACROCHIRUS* RAFINESQUE, EXPOSED TO COPPER: HYPOACTIVITY INDUCED BY SUBLETHAL CONCENTRATIONS. *J. Fish Biol.* 33(4):601-608. 1988. FR 34(1)
[Dep. Biol., Tulane Univ., New Orleans, LA 70118]

89-000874 Elsbury, R. M. and W. H. Gingerich. EFFECT OF CD^{++} TREATMENT ON WHOLE BODY ELECTROLYTE COMPOSITION OF LARVAL BROOK TROUT (*SALVELINUS FONTINALIS*) IN SOFT, ACIDIC WATER. *Am. Chem. Soc. Natl. Meeting* 194:290. 1987. Abstract only. FR 34(1)
[Dep. Biol., Univ. Wis., La Crosse 54601]

89-000875 Erickson, Russell; Duane Benoit and Vincent Mattson. EFFECTS OF PHYSICAL AND CHEMICAL PARAMETERS OF TEST WATER ON ACUTE TOXICITY OF COPPER TO LARVAL FATHEAD MINNOWS. *Am. Chem. Soc. Natl. Meeting* 194:201. 1987. Abstract only. FR 34(1)
[U.S. Environ. Protection Agency, Environ. Res. Lab., 6201 Congdon Blvd., Duluth, MN 55804] *Pimephales promelas.*

89-000876 Gautam, A. K. and S. L. Agrawal. ACUTE ZINC TOXICITY TO FRESHWATER FISH: *CIRRHINUS MRIGALA* (HAM). *Acta Ecol.* 9(1&2):38-43. 1987. From Paryavaran Abstr. 5(1):8801-151. 1988. FR 34(1)
[c/o Shri AH Khan, 248, Mulla Tabi, OTC Ambamata Scheme, Udaipur 313001, India]

89-000877 Gerhart, Donald J.; Daniel Rittschof and Sara W. Mayo. CHEMICAL ECOLOGY AND THE SEARCH FOR MARINE ANTIFOULANTS. STUDIES OF A PREDATOR-PREY SYMBIOSIS. *J. Chem. Ecol.* 14(10):1905-1917. 1988. FR 34(1)
[Duke Univ. Mar. Lab., Pivers Island, Beaufort, NC 28516]

89-000878 Ghosh, T. K. COMPARATIVE TOXICOGENIC EVALUATION OF TWO COMMONLY USED PESTICIDES, EKALUX (EC 25) AND ROGOR (DIMETHOATE) ON THE OVARIAN RECRUDESCENCE IN A TELEOST, *SAROTHERODON MOSSAMBICUS. Uttar Pradesh J. Zool.* 6(2):224-232. 1986. From Paryavaran Abstr. 5(1):8801-153. 1988. FR 34(1)
[Zool. Dep., Kalyani Univ., Kalyani 741235, India]

89-000879 Gorman, W. C., Jr. and R. K. Skogerboe. CADMIUM SPECIATION IN NATURAL WATERS AND THEIR EFFECT ON RAINBOW TROUT. *Am. Chem. Soc. Natl. Meeting* 194:227. 1987. Abstract only. FR 34(1)
[U.S. Borax Res. Corp., 412 Crescent Way, Anaheim, CA 92801] *Oncorhynchus mykiss.*

89-000880 Grimes, Norman C. SELECTED MORPHOMETRIC, ENZYME, AND METAL LEVELS IN THE LIVER OF THE BROWN BULLHEAD (*ICTALURUS NEBULOSUS*). *Ph.D. dissertation, Univ. Toledo* 156p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1482. 1988. Order No. DA8812211. FR 34(1)

89-000881 Grizzle, John M. and Arunthavarani Thiyagarajah. DIETHYLNITROSAMINE-INDUCED HEPATIC NEOPLASMS IN THE FISH *RIVULUS OCELLATUS MARMORATUS. Dis. Aquat. Org.* 5(1):39-50. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Agric. Exp. Stn., Auburn Univ., Auburn, AL 36849]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000882 Gunn, John M. SURVIVAL OF LAKE CHARR (*SALVELINUS NAMAYCUSH*) EMBRYOS UNDER PULSE EXPOSURE TO ACIDIC RUNOFF WATER. *Adv. Environ. Sci. Technol.* No. 22. p. 23-45. 1988. FR 34(1)
[Fish. Branch, Minist. Nat. Resour., Toronto, ON, Canada]

89-000883 Gupta, Saroj. EFFECT OF VEGETABLE OIL FACTORY EFFLUENT ON THE LIPID CONTENT IN LIVER OF *CHANNA PUNCTATUS* (BLOCH): STUDIES ON *IN VITRO* INCORPORATION OF RADIO-LABELLED SUBSTANCES. *J. Environ. Biol.* 8(4):353-357. 1987. From Paryavaran Abstr. 5(1):8801-158. 1988. FR 34(1)
[Zool. Dep., Fac. Basic Sci., Punjab Agric. Univ., Ludhiana 141004, India]

89-000884 Hall, Lenwood W., Jr. TRIBUTYLTIN ENVIRONMENTAL STUDIES IN CHESAPEAKE BAY. *Mar. Pollut. Bull.* 19(9):431-438. 1988. FR 34(1)
[Johns Hopkins Univ., Appl. Physics Lab., Aquat. Ecol. Sect., Shady Side, MD 20764]

89-000885 Harrison, S. E. and J. F. Klaverkamp. UPTAKE, ELIMINATION AND TISSUE DISTRIBUTION OF DIETARY AND AQUEOUS CADMIUM BY RAINBOW TROUT (*SALMO GAIRDNERI* RICHARDSON) AND LAKE WHITEFISH (*COREGONUS CLUPEAFORMIS* MITCHILL). *Environ. Toxicol. Chem.* 8(1):87-97. 1989. FR 34(1)
[Freshwater Inst., Cent. & Arctic Region, Dep. Fish. & Oceans, Winnipeg, MB, Canada R3T 2N6]

89-000886 Hawkins, William E.; William W. Walker; Robin M. Overstreet; Thomas F. Lytle and Julia S. Lytle. DOSE-RELATED CARCINOGENIC EFFECTS OF WATER-BORNE BENZO[*a*]PYRENE ON LIVERS OF TWO SMALL FISH SPECIES. *Ecotoxicol. Environ. Saf.* 16(3):219-231. 1988. FR 34(1)
[Gulf Coast Res. Lab., P.O. Box 7000, Ocean Springs, MS 39564] *Oryzias latipes* and *Poecilia reticulata.*

89-000887 Hebert, Craig E.; G. D. Haffner and B. W. Muncaster. FACTORS AFFECTING CONTAMINANT LEVELS IN FORAGE FISH SPECIES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-22. 1988. Abstract only. FR 34(1)
[Great Lakes Inst., Univ. Windsor, Windsor, ON, Canada N9B 3P4]

89-000888 Helder, Th. EFFECTS OF 2,3,7,8,-TETRACHLORODIBENZO-*p*-DIOXIN (TCDD) ON EARLY LIFE STAGES OF TWO FRESH-WATER FISH SPECIES. *In: Chlorinated Dioxins and Related Compounds: Impact on the Environment. O. Hutzinger, R. W. Frei, E. Merian and F. Pocchiari, editors.* p. 455-462. 1982. FR 34(1)
[Dep. Spec. Anim. Pathol. & Dep. Vet. Pharmacy, Toxicol., Fac. Vet. Med., State Univ., Utrecht, Netherlands]

89-000889 Hemilton, S. J. and P. M. Mehrle. METALLOTHIONEIN IN BROOK TROUT (*SALVELINUS FONTINALIS*) AS A BIOLOGICAL INDICATOR OF CADMIUM STRESS. *Am. Chem. Soc. Natl. Meeting* 194:289. 1987. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Contam. Res. Cent., Rt. 1, Columbia, MO 65201]

89-000890 Huckins, James N.; Ted R. Schwartz; Jimmie D. Petty and Lawrence M. Smith. DETERMINATION, FATE, AND POTENTIAL SIGNIFICANCE OF PCBs IN FISH AND SEDIMENT SAMPLES WITH EMPHASIS ON SELECTED AHH-INDUCING CONGENERS. *Chemosphere* 17(10):1995-2016. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Contaminant Res. Cent., Rt. 1, Columbia, MO 65201] *Ictalurus melas, Micropterus salmoides, Pomoxis nigromaculatus, P. annularis, Perca flavescens, Oncorhynchus kisutch,* and *Catostomus commersoni.*

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000891 Hutchinson, N. J. and J. B. Sprague. LETHALITY OF TRACE METAL MIXTURES TO AMERICAN FLAGFISH IN NEUTRALIZED ACID WATER. *Arch. Environ. Contam. Toxicol.* 18(1/2):249-254. 1989. FR 34(1)
[Limnol. Sect., Dorset Res. Cent., Ontario Minist. Environ., P.O. Box 39, Dorset, Canada POA 1EO] *Jordanella floridae*.

89-000892 Hutzinger, O.; R. W. Frei; E. Merian and F. Pocchiari. CHLORINATED DIOXINS AND RELATED COMPOUNDS: IMPACT ON THE ENVIRONMENT. *Pergamon Press* 658p. 1982. FR 34(1)
Selected chapters indexed in this issue of *Fisheries Review*.

89-000893 Hwang, Deng-Fwu; Tamao Noguchi; Osamu Arakawa; Tokiharu Abe and Kanehisa Hashimoto. TOXICOLOGICAL STUDIES ON SEVERAL SPECIES OF PUFFER IN TAIWAN. *Bull. Jpn. Soc. Sci. Fish.* 54(11):2001-2008. 1988. In English. FR 34(1)
[Lab. Mar. Biochem., Fac. Agric., Univ. Tokyo, Bunkyo, Tokyo 113, Japan] *Lagocephalus lunaris*, *Fugu alboplumbeus*, *F. oblongus*, and *Amblyrhynchotes hypselogenion*.

89-000894 Inbaraj, R. Moses and Shamim Haider. EFFECT OF MALATHION AND ENDOSULFAN ON BRAIN ACETYLCHOLINESTERASE AND OVARIAN STEROIDOGENESIS OF *CHANNA PUNCTATUS* (BLOCH). *Ecotoxicol. Environ. Saf.* 16(2):123-128. 1988. FR 34(1)
[Dep. Zool., Bonaras Hindu Univ., Varanasi-221 005, India]

89-000895 Ingebrigtsen, K.; J. E. Solbakken; G. Norheim and I. Nafstad. DISTRIBUTION AND ELIMINATION OF [^{14}C]OCTACHLOROSTYRENE IN COD (*GADUS MORHUA*), RAINBOW TROUT (*SALMO GAIRDNERI*) AND BLUE MUSSEL (*MYTILUS EDULIS*). *J. Toxicol. Environ. Health* 25(3):361-372. 1988. FR 34(1)
[Dep. Pharmacol. & Toxicol., Norwegian Coll. Vet. Med., Oslo, Norway]

89-000896 Ismail, Patimah. INFLUENCE OF SALINITY ON THE TOXICITY OF ZINC AND COPPER TO GUPPY. *Malay. Appl. Biol.* 17(1):31-38. 1988. FR 34(1)
[Bahagian Biol. Perikanan, Fak. Perikanan Sains Samudera, 43400 UPM, Serdang, Selangor, Malaysia] *Poecilia reticulata*.

89-000897 Iwami, Shiro and Ken-ichi Arai. [DENATURATION OF CARP MYOSIN B INDUCED BY INORGANIC PYROPHOSPHATE IN THE PRESENCE OF NEUTRAL SALT.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):2019-2027. 1988. In Japanese with English summ. FR 34(1)
[Lab. Biochem., Fac. Fish., Hokkaido Univ., Hakodate, Hokkaido 041, Japan] *Cyprinus carpio*.

89-000898 Iwami, Shiro and Ken-ichi Arai. [DENATURATION OF ACTIN IN CARP MYOSIN B INDUCED BY POLYMERIZED PHOSPHATE IN THE PRESENCE OF $MgCl_2$.] *Bull. Jpn. Soc. Sci. Fish.* 54(11):2009-2017. 1988. In Japanese with English summ. FR 34(1)
[Lab. Biochem., Fac. Fish., Hokkaido Univ., Hakodate, Hokkaido 041, Japan] *Cyprinus carpio*.

89-000899 Johnson, M. G.; J. R. M. Kelso and S. E. George. LOADINGS OF ORGANOCHLORINE CONTAMINANTS AND TRACE ELEMENTS TO TWO ONTARIO LAKE SYSTEMS AND THEIR CONCENTRATIONS IN FISH. *Can. J. Fish. Aquat. Sci.* 45(Suppl. 1):170-178. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, P.O. Box 5050, Burlington, ON, Canada L7R 4A6]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000900 Kai, Norihisa; Tadashi Ueda; Yasuaki Takeda and Akiyoshi Kataoka. THE LEVELS OF MERCURY AND SELENIUM IN BLOOD OF TUNAS. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1981-1985. 1988. In English. FR 34(1)
[Lab. Physical Food Chem., Dep. Food Sci. & Technol., Shimonoseki Univ. Fish., Shimonoseki 759-65, Japan] *Thunnus albacares* and *T. obesus* in Indonesia.

89-000901 Khillare, Y. K. and S. B. Wagh. EFFECT OF AGRICULTURAL FERTILIZER SUPERPHOSPHATE ON FOOD AND GROWTH IN THE FISH, *BARHBUS STIGMA* (HAM.). *Pollut. Res.* 6(1):25-28. 1987. From Paryavaran Abstr. 5(1):8801-165. 1988. FR 34(1)
[Zool. Dep., Marathwada Univ., Aurangabad 431004, India]

89-000902 Kirubagaran, R. and K. P. Joy. TOXIC EFFECTS OF MERCURIC CHLORIDE, METHYLMERCURIC CHLORIDE, AND EMISAN 6 (AN ORGANIC MERCURIAL FUNGICIDE) ON OVARIAN RECRUDESCENCE IN THE CATFISH *CLARIAS BATRACHUS* (L.). *Bull. Environ. Contam. Toxicol.* 41(6):902-909. 1988. FR 34(1)
[Joy: Cent. Adv. Study Zool., Banaras Hindu Univ., Varanasi-221 005, India]

89-000903 Kovac, Milomir. [THE LEVELS OF COPPER, ZINC AND LEAD IN THE MEAT AND LIVER OF FISH NOSE CARP FROM THE DRINA RIVER DOWNSTREAM FROM THE TOWN OF FOCA.] *Veterinaria (Sarajevo)* 37(1):71-79. 1988. In Serbo-Croatian with English summ. FR 34(1)
[Dep. Pathol. Physiol. Domestic Anim., Vet. Fac., Sarajevo, Yugoslavia] *Chondrostoma nasus nasus.*

89-000904 Krause, Paul Richard. CADMIUM AND ZINC IMPORTATION INTO A SOUTHERN CALIFORNIA ROCKY REEF COMMUNITY BY THE BLACKSMITH, *CHROMIS PUNCTIPINNIS* (OSTEICHTHYES: POMACENTRIDAE). *M.S. thesis, Calif. State Univ., Long Beach* 47p. 1987. From Masters Abstr. Int. 26(4):398. Order No. MA1332784. 1988. FR 34(1)

89-000905 Krishna, Kumari and V. Banerjee. EFFECT OF SUBLETHAL TOXICITY OF ZINC, MERCURY AND CADMIUM ON PERIPHERAL HAEMOGRAM IN *ANABAS TESTUDINEUS* (BLOCH). *Uttar Pradesh J. Zool.* 6(2):241-250. 1986. From Paryavaran Abstr. 5(1):8801-166. 1988. FR 34(1)
[PG Dep. Zool., Patna Univ., Patna 800005, India]

89-000906 Limsuwan, Chalor. [ACUTE TOXICITY OF MALACHITE GREEN TO FIVE SPECIES OF FRESHWATER FISH.] *Kasetsart J.* 21(4):355-359. 1987. In Thai with English summ. FR 34(1)
[Dep. Fish. Biol., Fac. Fish., Kasetsart Univ., Bangkok 10900, Thailand] *Puntius gonionotus, Tilapia nilotica, Clarias macrocephalus, Cyprinus carpio,* and *Ophicephalus striatus.*

89-000907 Malla, Reddy P. and Md. Bashamohideen. BIOCHEMICAL CHANGES IN THE KIDNEY AND INTESTINE OF FRESH WATER FISH *CYPRINUS CARPIO* EXPOSED TO MALATHION. *Environ. Ecol.* 5(2):378-389. 1987. From Paryavaran Abstr. 5(1):8801-174. 1988. FR 34(1)
[Zool. Dep., Sri Krishnadevaraya Univ., Anantapur 515003, India]

89-000908 Malla, Reddy P. TOXIC IMPACT OF MALATHION ON THE BRANCHIAL PROTEIN METABOLISM OF FRESHWATER FISH *CYPRINUS CARPIO*. *Environ. Ecol.* 5(2):368-370. 1987. From Paryavaran Abstr. 5(1):8801-175. 1988. FR 34(1)
[Zool. Dep., Sri Krishnadevaraya Univ., Anantapur 515003, India]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000909 Marchini, S.; L. Passerini; D. Cesareo and M. L. Tosato. HERBICIDAL TRIAZINES: ACUTE TOXICITY ON *DAPHNIA*, FISH, AND PLANTS AND ANALYSIS OF ITS RELATIONSHIPS WITH STRUCTURAL FACTORS. *Ecotoxicol. Environ. Saf.* 16(2):148-157. 1988. FR 34(1)
[Lab. Comp. Toxicol. & Ecotoxicol., Ist. Superiore Sanita, Viale Regina Elena, 299-00161 Rome, Italy]

89-000910 McCahon, C. P. and D. Pascoe. SHORT-TERM EXPERIMENTAL ACIDIFICATION OF A WELSH STREAM: TOXICITY OF DIFFERENT FORMS OF ALUMINIUM AT LOW pH TO FISH AND INVERTEBRATES. *Arch. Environ. Contam. Toxicol.* 18(1/2):233-242. 1989. FR 34(1)
[Dep. Appl. Biol., Univ. Wales Inst. Sci. & Techonol., P.O. Box 13, Cardiff CF1 3XF, Wales] *Salmo salar*, *S. trutta*, and *Cottus gobio*.

89-000911 McKee, Michael J.; Charles O. Knowles and Denny R. Buckler. EFFECTS OF ALUMINUM ON THE BIOCHEMICAL COMPOSITION OF ATLANTIC SALMON. *Arch. Environ. Contam. Toxicol.* 18(1/2):243-248. 1989. FR 34(1)
[Dep. Entomol., Univ. Mo., Columbia 65211] *Salmo salar*.

89-000912 Minichev, Yu. S. and L. N. Seravin. [METHODOLOGY AND STRATEGY OF PROTECTION AGAINST MARINE FOULING.] *Mar. Biol. (Vladivostok)* 1988(3):63-68. 1988. In Russian with English summ. FR 34(1)
[Lab. Invertebr. Zool., Biol. Res. Inst., Leningrad, Petergof 198904, USSR]

89-000913 Mount, David Ralph. PHYSIOLOGICAL AND TOXICOLOGICAL EFFECTS OF LONG-TERM EXPOSURE TO ACID, ALUMINUM, AND LOW CALCIUM ON ADULT BROOK TROUT *(SALVELINUS FONTINALIS)* AND RAINBOW TROUT *(SALMO GAIRDNERI)*. *Ph.D. dissertation, Univ. Wyo.* 184p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(5):1561. 1988. Order No. DA8813311. FR 34(1)

89-000914 Munkittrick, Kelly Roland L. H. ASSESSMENT OF THE HEALTH OF AQUATIC ECOSYSTEMS EXPOSED TO LOW-LEVEL ENVIRONMENTAL CONTAMINATION. *Ph.D. dissertation, Univ. Waterloo (Canada)* 1988. From Diss. Abstr. Int. B Sci. Eng. 49(4):1054. 1988. FR 34(1)
Catastomus commersoni in Canada.

89-000915 Nriagu, Jerome O. and J. S. S. Lakshminarayana, editors. AQUATIC TOXICOLOGY AND WATER QUALITY MANAGEMENT. *Adv. Environ. Sci. Technol.* No. 22. 292p. 1988. FR 34(1)
[Natl. Water Res. Inst., Burlington, ON, Canada] Selected chapters indexed in this issue of *Fisheries Review*.

89-000916 Oikari, Aimo; Pirjo Lindstrom-Seppa and Jussi Kukkonen. SUBCHRONIC METABOLIC EFFECTS AND TOXICITY OF A SIMULATED PULP MILL EFFLUENT ON JUVENILE LAKE TROUT, *SALMO TRUTTA* M. *LACUSTRIS*. *Ecotoxicol. Environ. Saf.* 16(3):202-218. 1988. FR 34(1)
[Dep. Biol., Univ. Joensuu, P.O. Box 111, SF-80101 Joensuu, Finland]

89-000917 Palanichamy S.; Devi T. Malliga and S. Arunachalam. SUBLETHAL EFFECTS OF THIODON AND EKALUX ON FOOD UTILIZATION, GROWTH AND CONVERSION EFFICIENCY IN THE FISH *LEPIDOCEPHALICHTHYS THERMALIS*. *Uttar Pradesh J. Zool.* 6(1):58-63. 1986. From Paryavaran Abstr. 5(1):8801-184. 1988. FR 34(1)
[PG Dep. Zool., APA Coll. Arts & Cult., Palani 624602, India]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000918 Paul, D. and S. K. Rant. COMPARATIVE STUDIES ON THE TOXICITY OF ENDOSULPHAN IN SOME FRESHWATER FISHES UNDER DIFFERENT pH AND HARDNESS OF WATER. *Curr. Sci. (Bangalore)* 56(7):318-320. 1987. From Paryavaran Abstr. 5(1):8801-187. 1988. FR 34(1)
[Zool. Dep., Calcutta Univ. 35, Ballygunge Circular Rd., Calcutta 700019, India]

89-000919 Payne, Jerry F.; J. Kiceniuk; L. L. Fancey; U. Williams; G. L. Fletcher; A. Rahimtula and B. Fowler. WHAT IS A SAFE LEVEL OF POLYCYCLIC AROMATIC HYDROCARBONS FOR FISH: SUBCHRONIC TOXICITY STUDY ON WINTER FLOUNDER (*PSEUDOPLEURONECTES AMERICANUS*). *Can. J. Fish. Aquat. Sci.* 45(11):1983-1993. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Sci. Branch, P.O. Box 5667, St. John's, NF, Canada A1C 5X1]

89-000920 Pereira, J. J. MORPHOLOGICAL EFFECTS OF MERCURY EXPOSURE ON WINDOWPANE FLOUNDER GILLS AS OBSERVED BY SCANNING ELECTRON MICROSCOPY. *J. Fish Biol.* 33(4):571-580. 1988. FR 34(1)
[NMFS, Northeast Fish. Cent., Milford Lab., 212 Rogers Ave., Milford, CT 06460] *Scophthalmus aquosus.*

89-000921 Phillips, D. J. H. and R. B. Spies. CHLORINATED HYDROCARBONS IN THE SAN FRANCISCO ESTUARINE ECOSYSTEM. *Mar. Pollut. Bull.* 19(9):445-453. 1988. FR 34(1)
[Aquat. Habitat Inst., 180 Richmond Field Stn., 1301 S. 46th St., Richmond, CA 94804]

89-000922 Rai, Renu. RESPONSES OF SERUM PROTEIN IN A FRESHWATER FISH TO EXPERIMENTAL MERCURY POISONING. *J. Environ. Biol.* 8(2 Suppl.):225-228. 1987. From Paryavaran Abstr. 5(1):8801-190. 1988. FR 34(1)
[PG Dep. Zool., Saifia Coll., Bhopal 462001, India]

89-000923 Ram, Raj Narayan and Suman Kumar Singh. LONG-TERM EFFECT OF AMMONIUM SULFATE FERTILIZER ON HISTOPHYSIOLOGY OF ADRENAL IN THE TELEOST, *CHANNA PUNCTATUS* (BLOCH). *Bull. Environ. Contam. Toxicol.* 41(6):880-887. 1988. FR 34(1)
[Cent. Adv. Study Zool., Banaras Hindu Univ., Varanasi-221 005, India]

89-000924 Ram, Raj Narayan and Suman Kumar Singh. CARBOFURAN-INDUCED HISTOPATHOLOGICAL AND BIOCHEMICAL CHANGES IN LIVER OF THE TELEOST FISH, *CHANNA PUNCTATUS* (BLOCH). *Ecotoxicol. Environ. Saf.* 16(3):194-201. 1988. FR 34(1)
[Cent. Advanced Study Zool., Banaras Hindu Univ., Varanasi-221 005, India]

89-000925 Ram, Raj Narayan. CARBOFURAN-INDUCED HISTOPHYSIOLOGICAL CHANGES IN THYROID OF THE TELEOST FISH, *CHANNA PUNCTATUS* (BLOCH). *Ecotoxicol. Environ. Saf.* 16(2):106-113. 1988. FR 34(1)
[Cent. Adv. Studies Zool., Banaras Hindu Univ., Varanasi 221 005, India]

89-000926 Rao, K. Seshagiri; K. Moorthy; Reddy B. Kasi Sreenivasa; K. S. Swami and C. Sreeramulu Chetty. EFFECT OF BENTHIOCARB ON PROTEIN METABOLISM OF FRESHWATER TELEOST, *SAROTHERODON MOSSAMBICUS. Indian J. Environ. Health* 29(1):45-51. 1987. From Paryavaran Abstr. 5(1):8801-193. 1988. FR 34(1)
[Zool. Dep., Sri Venkateswara Univ., Tirupati 517502, India]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000927 Reader, J. P. and R. Morris. EFFECTS OF ALUMINIUM AND pH ON CALCIUM FLUXES, AND EFFECTS OF CADMIUM AND MANGANESE ON CALCIUM AND SODIUM FLUXES IN BROWN TROUT (*SALMO TRUTTA* L.). *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):449-457. 1988. FR 34(1)
[Dep. Zool., Univ. Nottingham, University Park, Nottingham NG7 2RD, England]

89-000928 Renuka, Devi C. and C. A. Sastry. PATHOLOGICAL CHANGES DUE TO O-CRESOL, RESORCINOL AND 2;5-XYLENOL TO THE BRAIN (OPTIC TECTUM) OF A TELEOST *SAROTHERODON MOSSAMBICUS* (PETERS). *J. Environ. Biol.* 8(4):307-314. 1987. From Paryavaran Abstr. 5(1):8801-194. 1988. FR 34(1)
[NEERI (MZL), CSIR Campus, TTTI Post Taramani, Madras 600113, India]

89-000929 Rubec, Peter J. THE EFFECTS OF SODIUM CYANIDE ON CORAL REEFS AND MARINE FISH IN THE PHILIPPINES. *Proc. Asian Fish. Forum* 1:297-302. 1986. FR 34(1)
[Int. Marinelife Alliance, 314 Lincoln St., Suite 645, Hingham, MA 02043]

89-000930 Ruporella, S. G.; Y. Verma; C. B. Pandya; N. G. Sathawara; G. M. Shah; D. J. Parikh and B. B. Chatterjee. TRACE METAL CONTENTS IN WATER AND THE FISH *SAROTHERODON MOSSAMBICA* OF LAKE KANKARIA. *Environ. Ecol.* 5(2):294-296. 1987. From Paryavaran Abstr. 5(1):8801-195. 1988. FR 34(1)
[Natl. Inst. Occupational Health, Meghani Nagar, Ahmedabad 380016, India]

89-000931 Saha, M. K. and S. K. Konar. CHRONIC SUBLETHAL EFFECTS OF MIXTURE OF CRUDE PETROLEUM AND EMULSIFIER ON FISH. *Environ. Ecol.* 5(2):223-229. 1987. From Paryavaran Abstr. 5(1):8801-196. 1988. FR 34(1)
[Fish. Lab., Zool. Dep., Kalyani Univ., Kalyani 741235, India]

89-000932 Saksena, D. N. and A. Agarwal. EFFECT OF CADMIUM CHLORIDE ON THE OVARIAN ACTIVITY IN FRESH WATER CATFISH *CLARIAS BATRACHUS* (LINN.). *Uttar Pradesh J. Zool.* 6(1):108-114. 1986. From Paryavaran Abstr. 5(1):8801-197. 1988. FR 34(1)
[School Studies Zool., Jiwaji Univ., Gwalior 474011, India]

89-000933 Saksena, D. N. and A. Agarwal. EFFECT OF MERCURIC CHLORIDE INTOXICATION ON OVARIAN ACTIVITY OF A TELEOSTEAN FISH, *CHANNA PUNCTATUS* (BLOCH). *Int. J. Acad. Ichthyol.* 7(11):1-6. 1986. From Paryavaran Abstr. 5(1):8801-198. 1988. FR 34(1)
[School Studies Zool., Jiwaji Univ., Gwalior 474011, India]

89-000934 Sambasiva, Rao K. R. S. VARIATIONS IN THE NITROGEN PRODUCTS OF *CHANNA PUNCTATUS* AUGMENTED BY INTERACTION OF CARBARYL AND PHENTHOATE IN THE MEDIA. *J. Environ. Biol.* 8(2 Suppl.):173-177. 1987. From Paryavaran Abstr. 5(1):8801-202. 1988. FR 34(1)
[Zool. Dep., Nagarjuna Univ., Nagarjunanagar 522510, India]

89-000935 Sambasiva, Rao K. R. S. and Rao J. Chandrasekhara. INDEPENDENT AND COMBINED ACTION OF CARBARYL AND PHENTHOATE ON SNAKE HEAD *CHANNA PUNCTATUS* (BLOCH). *Curr. Sci. (Bangalore)* 56(7):331-332. 1987. From Paryavaran Abstr. 5(1):8801-201. 1988. FR 34(1)
[Zool. Dep., Nagarjuna Univ., Nagarjunanagar 522510, India]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000936 Sasaki, Kumiko; Takashi Suzuki and Yukio Saitō. DETERMINATION OF TRI-N-BUTYLTIN AND DI-N-BUTYLTIN COMPOUNDS IN YELLOWTAILS. *Bull. Environ. Contam. Toxicol.* 41(6):888-893. 1988. FR 34(1)
[Natl. Inst. Hyg. Sci., 18-1 Kamiyoga, 1-chome, Setagaya-ku, Tokyo 158, Japan] *Seriola lalandei.*

89-000937 Sauer, G. R. and N. Watabe. THE EFFECTS OF HEAVY METALS AND METABOLIC INHIBITORS ON CALCIUM UPTAKE BY GILLS AND SCALES OF *FUNDULUS HETEROCLITUS IN VITRO. Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):473-478. 1988. FR 34(1)
[Mar. Sci. Program & Electron Microscopy Cent., Univ. S.C., Columbia 29208]

89-000938 Shephard, K. L. ALUMINIUM AND CALCIUM AFFECT THE PERIVITELLINE FLUID IN FISH EGGS. *Comp. Biochem. Physiol. C Comp. Pharmacol. Toxicol.* 91(2):503-505. 1988. FR 34(1)
[Dep. Biol. Sci., Univ. Buckingham, Buckingham MK18 1EG, England] *Esox lucius.*

89-000939 Sinex, Scott A. and David A. Wright. DISTRIBUTION OF TRACE METALS IN THE SEDIMENTS AND BIOTA OF CHESAPEAKE BAY. *Mar. Pollut. Bull.* 19(9):425-431. 1988. FR 34(1)
[Div. Contaminants Chem., Food & Drug Admin., 200 C St., SW, Washington, DC 20204]

89-000940 Skoch, E. J.; L. M. Rakettye and M. Stoskopf. COMPARISON OF HEAVY METAL CONCENTRATIONS ON SERUM FROM CAPTIVE AND WILD SHARKS. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):93. 1986. Abstract only. FR 34(1)
[Mar. Anim. Res. Lab., John Carroll Univ., University Heights, OH 44118]

89-000941 Srivastava, A. K. CHANGES INDUCED BY LEAD IN FISH TESTIS. *J. Environ. Biol.* 8(4):329-332. 1987. From Paryavaran Abstr. 5(1):8801-208. 1988. FR 34(1)
[Lab. Fish. Physiol. & Toxicol., Zool. Dep., Gorapkhpur Univ., Gorakhpur 273009, India] *Colisa fasciatus.*

89-000942 Tjalve, Hans; James Gottofrey and Kathleen Borg. BIOACCUMULATION, DISTRIBUTION AND RETENTION OF $^{63}Ni^{2+}$ IN THE BROWN TROUT *(SALMO TRUTTA). Water Res.* 22(9):1129-1136. 1988. FR 34(1)
[Dep. Pharmacol. & Toxicol., Swedish Univ. Agric. Sci., Uppsala Biomed. Cent., Box 573, S-751 23 Uppsala, Sweden]

89-000943 Usha, Ram A. and R. Ramamurthi. TOXICITY OF COPPER TO SOME FRESHWATER ORGANISMS. *Environ. Ecol.* 5(2):407-408. 1987. From Paryavaran Abstr. 5(1):8801-213. 1988. FR 34(1)
[Pesticide Ind. Toxicol. Cent., Zool. Dep., Sri Venkateswara Univ., Tirupati 577502, India]

89-000944 Van Coillie, R.; N. Bermingham; C. Blaise; R. Vezeau and J. S. S. Lakshminarayana. INTEGRATED ECOTOXICOLOGICAL EVALUATION OF EFFLUENTS FROM DUMPSITES. *Adv. Environ. Sci. Technol.* No. 22. p. 161-191. 1988. FR 34(1)
[Conserv. & Protection Serv., Quebec Region, Protection Dir., Montreal, PQ, Canada H3B 3H9]

TOXICOLOGY; BIOASSAYS (CONTINUED)

89-000945 Washburn, Peter C. and Richard T. Di Giulio. NITROFURANTOIN-STIMULATED SUPEROXIDE PRODUCTION BY CHANNEL CATFISH (*ICTALURUS PUNCTATUS*) HEPATIC MICROSOMAL AND SOLUBLE FRACTIONS. *Toxicol. & Appl. Pharmacol.* 95(3):363-377. 1988. FR 34(1)
[Ecotoxicol. Lab., School For. & Environ. Studies, Duke Univ., Durham, NC 27706]

89-000946 Winston, Gary W.; Barbara S. Shane and Charles B. Henry. HEPATIC MONOOXYGENASE INDUCTION AND PROMUTAGEN ACTIVATION IN CHANNEL CATFISH FROM A CONTAMINATED RIVER BASIN. *Ecotoxicol. Environ. Saf.* 16(3):258-271. 1988. FR 34(1)
[Inst. Environ. Studies & Dep. Biochem., Rm. 42, Atkinson Hall, La. State Univ., Baton Rouge 70803] *Ictalurus punctatus* in Louisiana.

89-000947 Winston, W.; B. S. Shane; C. A. Traynor; L. S. Ortego; C. H. Henry and D. J. McMillin. INDUCTION OF XENOBIOTIC ACTIVATION IN CHANNEL CATFISH (*ICTALURUS PUNCTATUS*) FROM A CONTAMINATED RIVER BASIN SWAMP ECOSYSTEM. *Am. Chem. Soc. Natl. Meeting* 194:30. 1987. Abstract only. FR 34(1)
[Inst. Environ. Studies., La. State Univ., Baton Rouge 70803]

89-000948 Wright, David A. DOSE-RELATED TOXICITY OF COPPER AND CADMIUM IN STRIPED BASS LARVAE FROM THE CHESAPEAKE BAY: FIELD CONSIDERATIONS. *Water Sci. Technol.* 20(6/7):39-48. 1988. FR 34(1)
[Univ. Md., Cent. Environ. & Estuarine Studies, Chesapeake Biol. Lab., Solomons 20688-0038] *Morone saxatilis.*

89-000949 Yakubov, Sh. A. BACKGROUND MONITORING OF MUTAGENESIS IN FISHERY WATERS. *Dokl. Biol. Sci. (Engl. Transl. Dokl. Akad. Nauk SSSR)* 298(1-6):45-51. 1988. FR 34(1)

RESEARCH AND MANAGEMENT-GENERAL

89-000950 Aguero N., M. and B. A. Lockwood. RESOURCE MANAGEMENT IS PEOPLE MANAGEMENT. *Proc. Asian Fish. Forum* 1:345-347. 1986. FR 34(1)
[IC/ARM P.O. Box 1501, Makati, Metro Manila, Philippines]

89-000951 Allen, George H. ARCATA URBAN SPORTS FISHERIES: A CASE HISTORY. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 208-239. 1984. FR 34(1)
[Humboldt State Univ., 736 F St., Arcata, CA 95521] *Salmo* spp. and *Oncorhynchus* spp. in California.

89-000952 Allen, Lochie Jo, editor. URBAN FISHING SYMPOSIUM PROCEEDINGS. *Am. Fish. Soc.* 297p. 1984. FR 34(1)
Individual chapters indexed in this issue of *Fisheries Review.*

89-000953 Bender, J. A. and K. Bondari. FISH CULTURE IN THE URBAN ENVIRONMENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 289. 1984. Abstract only. FR 34(1)
[Dep. Biol., Morehouse Coll., Atlanta, GA 30314] *Tilapia aurea.*

89-000954 Breen, Ann E. URBAN FISHING AND WATERFRONT DEVELOPMENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 98-102. 1984. FR 34(1)
[Waterfront Cent., 1536 44th St., N.W., Washington, DC 20007]

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-000955 Brown, Allen M. TENNESSEE VALLEY AUTHORITY'S URBAN FISHING PROGRAM. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 289. 1984. Abstract only. FR 34(1)
[Tenn. Valley Auth., 451 Evans Bldg., Knoxville 27902]

89-000956 Brown, I. W. MANAGING THE RESOURCE: BIOLOGICAL FACTORS. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor.* p. 35-44. 1986. FR 34(1)

89-000957 Brown, Tommy L. SPECIAL PROBLEMS IN EVALUATING URBAN FISHING PROGRAMS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 151-155. 1984. FR 34(1)
[Dep. Nat. Resour., Fernow Hall, Cornell Univ., Ithaca, NY 14835]

89-000958 Bryan, D. F. THE COMMERCIAL FISHERMAN'S VIEW OF MANAGEMENT: PAST-PRESENT-FUTURE. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 115-126. 1986. FR 34(1)

89-000959 Buckley, Raymond M. URBAN FISHERIES IN MARINE WATERS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 132-140. 1984. FR 34(1)
[Dep. Fish., Room 115, Gen. Admin. Bldg., Olympia, WA 98504]

89-000960 Coble, Daniel W. EFFECTS OF ANGLING ON BLUEGILL POPULATIONS: MANAGEMENT IMPLICATIONS. *N. Am. J. Fish. Manage.* 8(3):277-283. 1988. FR 34(1)
[Coop. Fish. Res. Unit, Univ. Wis., Stevens Point 54481] *Lepomis macrochirus* in Indiana, Michigan, and Wisconsin.

89-000961 Crance, Johnie H. RELATIONSHIPS BETWEEN PALUSTRINE WETLANDS OF FORESTED RIPARIAN FLOODPLAINS AND FISHERY RESOURCES: A REVIEW. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(32):27p. 1988. Available from Natl. Ecol. Res. Cent., U.S. Fish & Wildl. Serv., 2627 Redwing Rd., Fort Collins, CO 80526. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., Creekside One Bldg., 2627 Redwing Rd., Fort Collins, CO 80526-2899]

89-000962 Crutchfield, J. FISHERY MANAGEMENT: A TIME FOR CHANGE. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor.* p. 12-34. 1986. FR 34(1)

89-000963 Deans, Dennis L. IT'S OUR TURN. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 244-249. 1984. FR 34(1)
[Dep. Fish. & Oceans, 1090 W. Pender, Vancouver, BC, Canada V6E 2P1] *Salmo* spp. and *Oncorhynchus* spp. in Canada.

89-000964 DesJardine, R. L. FISH STOCKING, AN ASPECT OF URBAN FISHERIES MANAGEMENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 118-131. 1984. FR 34(1)
[Ontario Minist. Nat. Resour., Cent. Region, 10670 Yonge St., Richmond Hill, ON, Canada L4C 3C9]

89-000965 Ditton, Robert B. and Anthony J. Fedler. TOWARDS AND UNDERSTANDING OF EXPERIENCE PREFERENCES OF URBAN ANGLERS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 55-63. 1984. FR 34(1)
[Dep. Rec. & Parks, Tex. A&M Univ., College Station 77842]

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-000966 Doadrio, I. DELIMITATION OF AREAS IN THE IBERIAN PENINSULA ON THE BASIS OF FRESHWATER FISHES. *Bonn. Zool. Beitr.* 39(2/3):113-128. 1988. FR 34(1)
[Mus. Nac. Cienc. Nat., Jose Gutierrez Abascal 2, 28006 Madrid, Spain]

89-000967 Driml, S. M. FISHERIES ECONOMICS IN QUEENSLAND: ITS INFANCY, ITS FUTURE. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 218-223. 1986. FR 34(1)

89-000968 Duttweiler, Michael W. TRAINING NEEDS OF URBAN FISHING PLANNING AND MANAGEMENT PERSONNEL. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 67-70. 1984. FR 34(1)
[Sea Grant Ext. Program, Fernow Hall, Cornell Univ., Ithaca, NY 14853]

89-000969 Edwards, Gary B. AN ANALYSIS OF PROVIDING PUT-AND-TAKE FISHING IN ARIZONA URBAN WATERS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 280-283. 1984. FR 34(1)
[Fish. Resour., U.S. Fish & Wildl. Serv., 18th & C St., N.W., Rm. 3348, Washington, DC 20240]

89-000970 Einhouse, Donald W. URBAN STOCKING PROGRAMS IN BUFFALO, NEW YORK. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 289-290. 1984. Abstract only. FR 34(1)
[Dep. Environ. Conserv., 600 Delaware Ave., Buffalo, NY 14202]

89-000971 Fetterolf, Carlos M., Jr. MERGING HABITAT AND FISHERIES REHABILITATION IN GREAT LAKES URBAN AREAS WITH WHOLE SYSTEM PROGRAMS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 250-258. 1984. FR 34(1)
[Great Lakes Fish. Comm., 1451 Green Rd., Ann Arbor, MI 48105]

89-000972 Fogle, Ned E. MICHIGAN AND THE URBAN ANGLER. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 259-262. 1984. FR 34(1)
[Dep. Nat. Resour., Box 30025, Lansing, MI 48909]

89-000973 Gay, R.; T. Wallace and D. G. Loveland. FISHING THE POTOMAC. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 290. 1984. Abstract only. FR 34(1)
[Dep. Environ. Serv., Gov. Dist. Columbia, Washington, DC 20032]

89-000974 Goettke, T. W. and D. R. Stowers. UNIQUE CONSTRUCTION OF AN URBAN FISHING PIER IN LAKE ERIE, 1982. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 290-291. 1984. Abstract only. FR 34(1)
[Dep. Nat. Resour., Div. Wildl., Fountain Square, Columbus, OH 43224]

89-000975 Gordon, William G. PROMOTING URBAN FISHING PROGRAMS. *In: Urban Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 9-13. 1984. FR 34(1)
[Natl. Mar. Fish. Serv., Washington, DC 20235]

89-000976 Gray, M. and S. Spencer. THE STRUCTURE AND ECONOMICS OF FISH AND SEAFOOD MARKETING IN QUEENSLAND. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 68-92. 1986. FR 34(1)

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-000977 Grey, Darryl L. THE DEVELOPMENT AND MANAGEMENT OF THE NORTHERN TERRITORY BARRAMUNDI (*LATES CALCARIFER*) FISHERY. *Proc. Asian Fish. Forum* 1:375-380. 1986. FR 34(1)
[Dep. Ports & Fish., L.B. 100, G.P.O. Darwin, N.T. 5794, Australia]

89-000978 Haas, Mark A. THE MISSOURI URBAN FISHING PROGRAM. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 275-279. 1984. FR 34(1)
[Dep. Conserv., 1221 S. Brentwood Blvd., St. Louis, MO 63117]

89-000979 Hair, Jay D. ENHANCING URBAN WATERS FOR FISH, WILDLIFE, AND RECREATION. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 17-21. 1984. FR 34(1)
[Natl. Wildl. Fed., 1412 16th St., N.W., Washington, DC 20036]

89-000980 Halko, Kenneth A. URBAN FISHING PROGRAMS IN THE CLEVELAND METROPARKS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 297. 1984. Abstract only. FR 34(1)
[Cleveland Metroparks Syst., 9485 Eastland Rd., Strongsville, OH 44136]

89-000981 Hawks, Steve; Lanny Jones; Mike McFadden and Doug Nygren. IMPROVING URBAN FISHING BY SUPPLEMENTAL FISH STOCKINGS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 291. 1984. Abstract only. FR 34(1)
[Fish & Game, 3300 S.W. 29th, Topeka, KS 66614] *Ictalurus punctatus* and *Oncorhynchus mykiss* in Kansas.

89-000982 Haynes, Judith A. AFTMA SPORT FISHING EDUCATIONAL FOUNDATION. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 291-292. 1984. Abstract only. FR 34(1)
[AFTMA, Sport Fish. Educ. Found., 2625 Clearbrook Dr., Arlington Heights, IL 60005]

89-000983 Haysom, N. M. THE MANAGEMENT REGIME IN QUEENSLAND: AN OVERVIEW. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor.* p. 57-61. 1986. FR 34(1)

89-000984 Heatwole, Charles A. and Niels C. West. URBAN FISHING SITES: CHARACTERISTICS AND USER PREFERENCES. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 292. 1984. Abstract only. FR 34(1)
[Dep. Geol. & Geogr., Hunter Coll., CUNY, New York, NY 10021]

89-000985 Hellier, Chris. THE MANGROVE WASTELANDS. *Ecologist* 18(2/3):77-79. 1988. FR 34(1)
[Resit Galip Cad 20/5, Kucukesat, Ankara, Turkey]

89-000986 Howard, Ilo; Alan McGroary and Peter Oatis. USING VOLUNTEERS EFFECTIVELY AND TRAINING ADULT LEADERS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 174-179. 1984. FR 34(1)
[Div. Fish. & Wildl., 100 Cambridge St., Boston, MA 02202]

89-000987 Hudson, Jerry L. URBAN TROUT FISHERY. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 292. 1984. Abstract only. FR 34(1)
[Conserv. Comm., Northeast Dist. Headquarters, R.R. 2, Box 269, Manchester, IA 52057] *Oncorhynchus mykiss* in Iowa.

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-000988 Hundloe, T. J. A., editor. FISHERIES MANAGEMENT: THEORY AND PRACTICE IN QUEENSLAND. *Griffith Univ. Press* 245p. 1986. FR 34(1)
Selected chapters indexed in this issue of *Fisheries Review*.

89-000989 Jaco, Ben D. INNOVATIVE FISHERIES MANAGEMENT TECHNIQUES. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 92-97. 1984. FR 34(1)
[Tenn. Valley Auth., 441 Evans Bldg., Knoxville 37902]

89-000990 Jantzen, Robert A. THE ROLE OF THE U.S. FISH AND WILDLIFE SERVICE IN URBAN FISHING. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 14-16. 1984. FR 34(1)
[U.S. Fish & Wildl. Serv., Washington, DC 20240]

89-000991 Johnson, Raymond E. INTEGRATING PROFESSIONAL DISCIPLINES FOR SUCCESSFUL PROGRAM DEVELOPMENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 64-70. 1984. FR 34(1)
[Am. Fish. Soc., 5410 Grosvenor Ln., Bethesda, MD 20814]

89-000992 Jones, Gomer E. URBAN RECREATIONAL FISHING - SOURCES OF FUNDING. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 77-80. 1984. FR 34(1)
[Natl. Inst. Urban Wildl., 10921 Trotting Ridge Way, Columbia, MD 21044]

89-000993 Kendig, Lane H. WHY CONSIDER FISHING IN URBAN-SUBURBAN PLANNING? *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 22-31. 1984. FR 34(1)
[Lane Kendig, Inc., 472 Killarney Pass, Mundelein, IL 60060]

89-000994 Kesteven, G.; J. Stratton and D. Carter. PRIVATE ENTERPRISE RESEARCH PROGRAMME. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 140-145. 1986. FR 34(1)

89-000995 Kirch, Steven A.; Metropolitan Council; Minnesota Department of Natural Resources; Minnesota Department of Energy, Planning & Development. A COOPERATIVE PROGRAM FOR PROVIDING PUBLIC ACCESS SITES ON METROPOLITAN AREA LAKES. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 292-293. 1984. Abstract only. FR 34(1)
[Dep. Nat. Resour., Box 52, Centennial Bldg., St. Paul, MN 55155-1679]

89-000996 Lange, Robert E. FISHING IN THE BIG APPLE: A DEMONSTRATION PROGRAM FOR NEW YORK CITY. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 263-274. 1984. FR 34(1)
[Dep. Environ. Conserv., Dunkirk Fish. Stn., 178 Point Dr. N., Dunkirk, NY 14048]

89-000997 Lenzini, Paul A. URBAN FISHING: LIABILITY AND LEGAL CONSIDERATIONS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editors.* p. 81-91. 1984. FR 34(1)
[1825 Eye St., N.W., Washington, DC 20006]

89-000998 Leonard, Dorothy L. ATTRACTING POTENTIAL SPONSORS TO URBAN FISHING OPPORTUNITIES. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 180-184. 1984. FR 34(1)
[1834 N. Ode St., Arlington, VA 22209]

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-000999 Mackenthun, Kenneth M. WATER QUALITY AND CONTAMINANT CONSIDERATIONS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 48-54. 1984. FR 34(1)
[55 S. Pleasantburg Dr., Greenville, SC 29601]

89-001000 Maclean, J. L.; L. B. Dizon and L. V. Hosillos, editors. THE FIRST ASIAN FISHERIES FORUM. *Asian Fish. Soc.* 727p. 1986. FR 34(1)
Selected chapers indexed in this issue of *Fisheries Review.*

89-001001 Manfredo, Michael J.; Charles C. Harris and Perry J. Brown. THE SOCIAL VALUES OF AN URBAN RECREATIONAL FISHING EXPERIENCE. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 156-164. 1984. FR 34(1)
[Coll. For., Oreg. State Univ., Corvallis 97331]

89-001002 Marolf, Jeanne. EDUCATIONAL CONSIDERATIONS FOR URBAN YOUTH, THE ELDERLY, AND THE HANDICAPPED. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 169-173. 1984. FR 34(1)
[Dep. Conserv., 300 N.W. 43rd St., Kansas City, MO 64116]

89-001003 Mason, William T., Jr. SITING METHODS FOR URBAN FISHING. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 32-47. 1984. FR 34(1)
[Office Res. & Dev., U.S. Environ. Protection Agency, 401 M St., S.W., Washington, DC 20460]

89-001004 Mayo, Ronald D. FACILITIES DESIGN AND CONSTRUCTION. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 103-105. 1984. FR 34(1)
[Mayo Assoc., 204-108 S. Washington, Seattle, WA 98104]

89-001005 Meany, T. F. THE ROLE OF THE ECONOMIST IN FISHERIES MANAGEMENT: THE CONCEPT OF ECONOMIC RENT. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A., Hundloe, editor* p. 45-56. 1986. FR 34(1)

89-001006 Meng, Qing-Wen and Wang Tian-Sheng. FISHERIES EDUCATION IN CHINA. *Proc. Asian Fish. Forum* 1:401-403. 1986. FR 34(1)
[Shanghai Fish. Univ., 334 Juu Gong Rd., Shanghai, China]

89-001007 Nakamura, Royden. THE ROLE OF AQUACULTURE IN URBAN FISHING PROGRAMS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 106-117. 1984. FR 34(1)
[Biol. Sci. Dep., Calif. Polytech. State Univ., San Luis Obispo 93407]

89-001008 Patterson, Richard. USING THE MEDIA TO IMPROVE URBAN FISHING. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 293. 1984. Abstract only. FR 34(1)
[Indian Creek Nat. Cent., 6665 Otis Rd., S.E., Cedar Rapids, IA 52401]

89-001009 Pinto, L. POPULATION DYNAMICS AND COMMUNITY STRUCTURE OF FISH IN THE MANGROVES OF PAGBILAO, PHILIPPINES. *J. Fish Biol.* 33(Suppl. A):35-43. 1988. FR 34(1)
[Dep. Zool., Open Univ., Nawala, Nugegoda, Sri Lanka] *Ambassis kopsi, Secutor ruconius, Leiognathus brevirostris,* and *Prosopodasys gogorzae.*

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-001010 Pulliam, Wayne. INVOLVEMENT OF URBAN LEGISLATORS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 194-196. 1984. FR 34(1)
[House Environ. Matters Comm., House Delegates, Md. Gen. Assembly, Annapolis 21401-1991]

89-001011 Radonski, Gilbert C. OPPORTUNITIES FOR URBAN FISHING. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 1-8. 1984. FR 34(1)
[Sport Fish. Inst., 1010 Massachusetts Ave., Suite 100, Washington, DC 20001]

89-001012 Reid, David A. and Greg C. Chapman. WELLAND CORRIDOR REDEVELOPMENT PLAN, FISHERIES COMPONENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 294. 1984. Abstract only. FR 34(1)
[Underwood McLellan Ltd., 89 Carlingview Dr., Rexdale, Toronto, ON, Canada M9W 5E4]

89-001013 Rosen, Rudolph A. PROMOTING URBAN FISHING: THE ROLE OF CONSERVATION ORGANIZATIONS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 185-193. 1984. FR 34(1)
[Natl. Wildl. Fed., 1412 16th St., N.W., Washington, DC 20036]

89-001014 Rubec, Peter J. THE NEED FOR CONSERVATION AND MANAGEMENT OF PHILIPPINE CORAL REEFS. *Environ. Biol. Fishes* 23(1-2):141-154. 1988. FR 34(1)
[Int. Marinelife Alliance Canada, 355 Rt. de la Mer, B.P. 4, Sainte-Flavie, PQ, Canada G0J 2L0]

89-001015 Russell, C. T. and P. Saenger. RECREATIONAL FISHING IN QUEENSLAND: THE EIGHTIES AND BEYOND. *In: Fisheries Management: Theory and Practice In Queensland. T. J. A. Hundloe, editor* p. 127-133. 1986. FR 34(1)

89-001016 Scarnecchia, Dennis L. SALMON MANAGEMENT AND THE SEARCH FOR VALUES. *Can. J. Fish. Aquat. Sci.* 45(11):2042-2050. 1988. In English with French summ. FR 34(1)
[Dep. Anim. Ecol., Iowa State Univ., Ames 50011] *Oncorhynchus* spp. and *Salmo salar*.

89-001017 Schedler, Thomas R. and Judith A. Haynes. ORGANIZATION AND IMPLEMENTATION OF FISHING DERBIES AND CLINICS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 165-168. 1984. FR 34(1)
[Am. Fish. Manufacturers Assoc., 2625 Clearbrook Dr., Arlington Heights, IL 60005]

89-001018 Seaman, William, Jr.; Heyward H. Mathews; Donald Y. Aska and Donald E. Sweat. URBAN FISHING IN THE SOUTHEAST: A CASE HISTORY FROM COASTAL FLORIDA. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 197-207. 1984. FR 34(1)
[Sea Grant Coll. Program & School For. Resour. & Conserv., Univ. Fla., Gainesville 32611]

RESEARCH AND MANAGEMENT-GENERAL (CONTINUED)

89-001019 Simons, Paul. BELIZE AT THE CROSSROADS. *New Sci.* 120(1636):61-65. 1988. FR 34(1)

89-001020 Stoffle, Richard W. and Florence V. Jensen. "NO SNAGGING ALLOWED": AN ETHICAL DEBATE IN LAKE MICHIGAN FISHERY MANAGEMENT. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 294-295. 1984. Abstract only. FR 34(1)
[Univ. Wis.-Parkside, Kenosha 53141]

89-001021 Talhelm, Daniel R. ECONOMIC EVALUATION OF URBAN FISHING PROGRAMS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 71-76. 1984. FR 34(1)
[Dep. Fish. & Wildl., Mich. State Univ., East Lansing 48824]

89-001022 Taylor, Deirdre C. ERIE FISHING DEVELOPMENT PROGRAM. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 296. 1984. Abstract only. FR 34(1)
[Dep. Environ. Resour., P.O. Box 1467, Harrisburg, PA 17120]

89-001023 Thompson, Richard B. EFFORTS TO PROVIDE URBAN FISHERIES FOR ANADROMOUS SPECIES. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 141-150. 1984. FR 34(1)
[Natl. Mar. Fish. Serv., Northwest Regional Office, Seattle, WA 98115]

89-001024 Underhill, A. Heaton. A SURVEY OF STATE URBAN FISHING PROGRAMS. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 295-296. 1984. Abstract only. FR 34(1)
[Univ. Ariz., Tucson 85721]

89-001025 Williams, M. DESCRIPTIVE STATISTICS ON QUEENSLAND COMMERCIAL FISHERIES. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 62-67. 1986. FR 34(1)

89-001026 Young, Leroy M. and Robert A. Lahr. LAKE ERIE ANGLER AND BOATER USE AND ANGLER HARVEST SURVEY. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 296-297. 1984. Abstract only. FR 34(1)
[Penn. Fish Comm., 450 Robinson Ln., Bellefonte 16823]

ADMINISTRATION AND PLANNING

89-001027 Lacanilao, F. J. ANNUAL REPORT i986. *Aquacult. Dep. Southeast Asian Fish. Dev. Cent. Annu. Rep.* 52p. 1986. FR 34(1)
[SEAFDEC Aquacult. Dep., P.O. Box 256, Iloilo City, Philippines]

89-001028 Northwest Atlantic Fisheries Organization. NORTHWEST ATLANTIC FISHERIES ORGANIZATION (NAFO) 1980 - ANNUAL REPORT. *Northwest Atl. Fish. Org. Annu. Rep.* 2:99p. 1988. FR 34(1)
[Holland Bldg., Bedford Inst. Oceanogr., P.O. Box 1006, Dartmouth, NS, Canada B2Y 4A2]

HABITAT ALTERATIONS

89-001029 American Fisheries Society. EFFECTS OF SURFACE MINING ON AQUATIC RESOURCES IN NORTH AMERICA. *Fisheries (Bethesda)* 13(6):19-22. 1988. FR 34(1)

89-001030 Chapple, Keith. WHANGANUI: WATERS OF LIFE. *For. Bird* 250:6-8. 1988. FR 34(1)

89-001031 Davies, J. K. A REVIEW OF INFORMATION RELATING TO FISH PASSAGE THROUGH TURBINES: IMPLICATIONS TO TIDAL POWER SCHEMES. *J. Fish Biol.* 33(Suppl. A):111-126. 1988. FR 34(1)
[Cent. Electricity Res. Lab., Mar. Biol. Unit, Fawley, Southampton SO4 1TW, England]

89-001032 Dempsey, C. H. ICHTHYOPLANKTON ENTRAINMENT. *J. Fish Biol.* 33(Suppl. A):93-102. 1988. FR 34(1)
[Cent. Electricity Res. Lab., Mar. Biol. Unit, Fawley, Southampton SO4 1TW, England]

89-001033 Fuller, R. D.; D. M. Simone and C. T. Driscoll. FOREST CLEARCUTTING EFFECTS ON TRACE METAL CONCENTRATIONS: SPATIAL PATTERNS IN SOIL SOLUTIONS AND STREAMS. *Water Air Soil Pollut.* 40(1/2):185-195. 1988. FR 34(1)
[Cent. Earth & Environ. Sci., SUNY, Plattsburgh, NY 12901]

89-001034 Golladay, Stephen W. THE EFFECTS OF FOREST DISTURBANCE ON STREAM STABILITY. *Ph.D. dissertation, VPI&SU (Blacksburg)* 184p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1502. 1988. Order No. DA8811984. FR 34(1)

89-001035 Jackson, Donald C. and William D. Davies. ENVIRONMENTAL FACTORS INFLUENCING SUMMER ANGLER EFFORT ON THE JORDAN DAM TAILWATER, ALABAMA. *N. Am. J. Fish. Manage.* 8(3):305-309. 1988. FR 34(1)
[Dep. Wildl. & Fish., P.O. Drawer LW, Miss. State Univ., Mississippi State 39762]

89-001036 Jahrsdoerfer, Sonja E. and David M. Leslie, Jr. TAMAULIPAN BRUSHLAND OF THE LOWER RIO GRANDE VALLEY OF SOUTH TEXAS: DESCRIPTION, HUMAN IMPACTS, AND MANAGEMENT OPTIONS. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(36):63p. 1988. Available from U.S. Fish & Wildl. Serv., Publ. Unit, Matomic Bldg., Rm. 148, Washington, DC 20240. FR 34(1)
[U.S. Fish & Wildl. Serv., Southwest Regional Office, P.O. Box 1306, Albuquerque, NM 87103]

89-001037 Jhaveri, Nayna. THE THREE GORGES DEBACLE. *Ecologist* 18(2/3):56-63. 1988. FR 34(1)
[Hong Kong Environ. Cent., HK GPO Box 167, Hong Kong]

89-001038 Marutani, Tomomi. A GEOMORPHOLOGICAL STUDY FOR THE DISTRIBUTION OF SEDIMENT AND THE CONSTANT SHIFTING OF BALANCE ON DEVASTATED STREAM BEDS. *J. Fac. Agric. Kyushu Univ.* 33(1-2):153-165. 1988. FR 34(1)
[Univ. For., Fac. Agric., Kyushu Univ. 46-11, Fukuoka 812, Japan]

89-001039 Neophitou, Christos and Keneth O'Hara. A COMPARISON STUDY OF AGE, GROWTH AND POPULATION STRUCTURE OF BROWN TROUT IN ALKALINE AND ACID WATERS IN NORTH WALES. *Thalassographica* 9(2):51-67. 1986. In English with

HABITAT ALTERATIONS (CONTINUED)

89-001039 CONTINUED Greek summ. FR 34(1)
[Dep. For. & Nat. Environ., Aristotelian Univ., Thessaloniki, Greece] *Salmo trutta.*

89-001040 Olsson, Tommy I. and Bo-Goran Persson. EFFECTS OF DEPOSITED SAND ON OVA SURVIVAL AND ALEVIN EMERGENCE IN BROWN TROUT (*SALMO TRUTTA* L.). *Arch. Hydrobiol.* 113(4):621-627. 1988. In English with German summ. FR 34(1)
[Dep. Anim. Ecol., Univ. Umea, S-901 87 Umea, Sweden]

89-001041 Platts, William S. and Rodger L. Nelson. FLUCTUATIONS IN TROUT POPULATIONS AND THEIR IMPLICATIONS FOR LAND-USE EVALUATION. *N. Am. J. Fish. Manage.* 8(3):333-345. 1988. FR 34(1)
U.S. For. Serv., Intermountain Res. Stn., For. Sci. Lab., Boise, ID 83702] *Salvelinus fontinalis, Oncorhynchus clarki,* and *O. tshawytscha* in Idaho, Nevada, and Utah.

89-001042 Rader, Russell B. and James V. Ward. INFLUENCE OF REGULATION ON ENVIRONMENTAL CONDITIONS AND THE MACROINVERTEBRATE COMMUNITY IN THE UPPER COLORADO RIVER. *Regul. Rivers Res. Manage.* 2(5):597-618. 1988. FR 34(1)
[Savannah River Ecol. Lab., Drawer 'E', Aiken, SC 29802]

89-001043 Rinne, John N. EFFECTS OF LIVESTOCK GRAZING EXCLOSURE ON AQUATIC MACROINVERTEBRATES IN A MONTANE STREAM, NEW MEXICO. *Great Basin Nat.* 48(2):146-153. 1988. FR 34(1)
[USDA For. Serv., Rocky Mt. For. & Range Exp. Stn., For. Sci. Lab., Ariz. State Univ., Tempe 85287-1304]

89-001044 Varshney, D. V. CASE STUDIES OF ENVIRONMENTAL IMPACT OF DAMS AND RESERVOIRS. *Res. J. Natl. Soc. Pollut. Free Environ.* 1(1&2):31-39. 1987. From Paryavaran Abstr. 5(1):8801-032. 1988. FR 34(1)
[Civil Eng. Dep., GB Pant Univ. Agric. Tech., Pantnagar, Nainital UP, India]

89-001045 Veshchev, P. V. and A. S. Novikova. REPRODUCTION OF SEVRYUGA, *ACIPENSER STELLATUS,* IN THE LOWER VOLGA. *J. Ichthyol. (Engl. Transl. Vopr. Ikhtiol.)* 28(1):39-47. 1988. FR 34(1)
[Cent. Sturgeon Farming Res. Inst. - TsNIORKH, Astrakhan, USSR]

HARVEST, CREEL CENSUS, ETC.

89-001046 Cooperrider, Candis L. COMMERCIAL PASSENGER FISHING VESSEL LANDINGS OF WIDOW ROCKFISH *SEBASTES ENTOMELAS* IN CENTRAL CALIFORNIA. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:49-52. 1987. FR 34(1)
[Southwest Fish. Cent. Lab., NMFS, NOAA, Tiburon, CA 94920]

89-001047 Demory, Robert. THE WIDOW ROCKFISH FISHERY IN OREGON, 1963-80. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:9. 1987. FR 34(1)
[Dep. Fish & Wildl., Newport, OR 97365] *Sebastes entomelas.*

HARVEST, CREEL CENSUS, ETC. (CONTINUED)

89-001048 Fogle, Ned Earl. ANALYSIS OF A MAILABLE URBAN RECREATION FISHING SURVEY FORM. *Ph.D. dissertation, Mich. State Univ.* 77p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(5):1461. 1988. Order No. DA8814850. FR 34(1)

89-001049 Lenarz, William and Donald R. Gunderson, editors. WIDOW ROCKFISH: PROCEEDINGS OF A WORKSHOP, TIBURON, CALIFORNIA, DECEMBER 11-12, 1980. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:57p. 1987. FR 34(1)
Selected chapters indexed in this issue of *Fisheries Review.*

89-001050 Quirollo, Lawrence F. REVIEW OF DATA ON HISTORICAL CATCHES OF WIDOW ROCKFISH IN NORTHERN CALIFORNIA. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:7-8. 1987. FR 34(1)
[Mar. Res. Region, Dep. Fish & Game, Eureka, CA 95501] *Sebastes entomelas.*

89-001051 Rogers, Donald E. PACIFIC SALMON. *In: The Gulf of Alaska - Physical Environment and Biological Resources. Donald W. Hood and Steven T. Zimmerman, editors.* p. 461-476. 1987. FR 34(1)
[Fish. Res. Inst., Univ. Wash., Seattle] *Oncorhynchus* spp. in Alaska.

89-001052 Sakagawa, Gary T.; Atilio L. Coan and Norman W. Bartoo. PATTERNS IN LONGLINE FISHERY DATA AND CATCHES OF BIGEYE TUNA, *THUNNUS OBESUS. Mar. Fish. Rev.* 49(4):57-66. 1987. FR 34(1)
[Southwest Fish. Cent., NMFS, NOAA, La Jolla, CA 92037]

89-001053 Sjoblom, Veikko; Pekka Niskanen; Raimo Parmanne; Erkki Ikonen and Eero Aro. [CATCH QUOTAS FOR HERRING AND SPRAT IN 1985 AND CHANGES IN THE INTERNATIONAL RULES FOR THE BALTIC SEA FISHERIES.] *Tiedonantoja* 24:78-80. 1986. In Finish. FR 34(1)
[Helsingin Yliopisto, Limnol. Laitos, Viikki, 00710 Helsinki, Finland]

89-001054 Tagart, Jack V. DESCRIPTION OF THE WASHINGTON STATE FISHERY FOR WIDOW ROCKFISH. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:11-12. 1987. FR 34(1)
[Dep. Fish., Mar. Fish Programs, Seattle, WA 98115] *Sebastes entomelas.*

89-001055 Ueber, Edward. WIDOW ROCKFISH FISHERY. *NOAA (Natl. Ocean. Atmos. Admin.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.)* 48:53-56. 1987. FR 34(1)
[Southwest Fish. Cent. Lab., NMFS, NOAA, Tiburon, CA 94920] *Sebastes entomelas.*

REGULATIONS

89-001056 Halliday, R. G. USE OF SEASONAL SPAWNING AREA CLOSURES IN THE MANAGEMENT OF HADDOCK FISHERIES IN THE NORTHWEST ATLANTIC. *Northwest Atl. Fish. Org. Sci. Counc. Stud.* No. 12. p. 27-36. 1988. FR 34(1)
[Dep. Fish. & Oceans, Biol. Sci. Branch, Bedford Inst. Oceanogr., P.O. Box 1006, Dartmouth, NS, Canada B2Y 4A2] *Melanogrammus aeglefinus.*

FISH CONTROL AND REMOVAL

89-001057 Otis, Keith J. EFFECTS OF FRESHWATER DRUM REMOVAL IN LAKE WINNEBAGO, 1967-1981. *Wis. Dep. Nat. Resour. Res. Rep.* No. 145. 19p. 1988. FR 34(1)
[Dep. Nat. Resour., Bur. Res., Box 2565, Oshkosh, WI 54903] *Aplodinotus grunniens.*

89-001058 Stauffer, Jay R., Jr.; Suzanne E. Boltz and Jeffrey M. Boltz. COLD SHOCK SUSCEPTIBILITY OF BLUE TILAPIA FROM THE SUSQUEHANNA RIVER, PENNSYLVANIA. *N. Am. J. Fish. Manage.* 8(3):329-332. 1988. FR 34(1)
[School For. Resour., Pa. State Univ., University Park 16802] *Tilapia aurea.*

MARKING AND TAGGING

89-001059 Chart, Thomas E. and Eric P. Bergersen. METHODS FOR LONG-TERM IDENTIFICATION OF SALMONIDS: A REVIEW. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(37):18p. 1988. Available from U.S. Fish & Wildl. Serv., Publ. Unit, Matomic Bldg., Rm. 148, Washington, DC 20240. FR 34(1)
[U.S. Fish & Wildl. Serv., Coop. Fish & Wildl. Res. Unit, 201 Wagar Bldg., Colo. State Univ., Fort Collins 80523]

89-001060 Garcia, L. Ma. B. and R. SJ. Gapasin. AN INEXPENSIVE TAG FOR SHORT-TERM STUDIES IN MILKFISH (*CHANOS CHANOS* FORSSKAL) AND IN SEABASS (*LATES CALCARIFER* BLOCH). *J. Appl. Ichthyol.* 4(3):101-104. 1988. In English with German and French summ. FR 34(1)
[Southeast Asian Fish. Dev. Cent. (SEAFDEC), Aquacult. Dep., Tigbauan, Iloilo, Philippines]

89-001061 Gjerde, Bjarne and Terje Refstie. THE EFFECT OF FIN-CLIPPING ON GROWTH RATE, SURVIVAL AND SEXUAL MATURITY OF RAINBOW TROUT. *Aquaculture* 73(1-4):383-389. 1988. FR 34(1)
[Agric. Res. Counc. Norway, Inst. Aquacult. Res., 1432 As-NLH, Norway] *Oncorhynchus mykiss.*

89-001062 Hassler, Thomas J. and Stephen T. Kucas. RETURNS OF MORPHOLINE-IMPRINTED COHO SALMON TO THE MAD RIVER, CALIFORNIA. *N. Am. J. Fish. Manage.* 8(3):356-358. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Coop. Fish. Res. Unit, Humboldt State Univ., Arcata, CA 95521] *Oncorhynchus kisutch.*

89-001063 Muth, Robert T.; Thomas P. Nesler and Anthony F. Wasowicz. MARKING CYPRINID LARVAE WITH TETRACYCLINE. *Am. Fish. Soc. Symp.* 5:89-95. 1988. FR 34(1)
[Larval Fish Lab., Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins 80523] *Ptychocheilus lucius* and *Pimephales promelas.*

89-001064 Pauley, Gilbert B. and David A. Troutt. COMPARISON OF THREE METHODS OF FLUORESCENT DYE APPLICATION FOR MARKING JUVENILE STEELHEAD. *Trans. Am. Fish. Soc.* 117(3):311-313. 1988. FR 34(1)
[Coop. Fish. Res. Unit, Coll. Ocean & Fish. Sci., Univ. Wash., Seattle 98195] *Oncorhynchus mykiss.*

MARKING AND TAGGING (CONTINUED)

89-001065 Unwin, Martin and Fred Lucas. MEASURING HATCHERY CONTRIBUTIONS - TAG RECOVERIES AND THE 'EXPANSION FACTOR'. *Freshwater Catch* No. 38. p. 14. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand]

89-001066 Webb, Mark. TAG RETENTION - 'A THORN IN THE SIDE'. *Freshwater Catch* No. 38. p. 13-14. 1988. FR 34(1)
Salmo trutta and *Oncorhynchus mykiss* in New Zealand.

STOCKING AND INTRODUCTIONS

89-001067 Cashman, Michael Robert. DISTRIBUTION AND FEEDING INTERACTIONS OF THE THREADFIN SHAD AND JUVENILE GAMEFISH IN PATAGONIA LAKE. *M.S. thesis, Univ. Ariz.* 39p. 1988. From Masters Abstr. Int. 26(4):394. 1988. Order No. MA1333229. FR 34(1)
Micropterus salmoides, Lepomis macrochirus, and *Dorosoma petenense* in Arizona.

89-001068 Hay, D. E. and J. B. Marliave. TRANSPLANTING PACIFIC HERRING EGGS IN BRITISH COLUMBIA: A STOCKING EXPERIMENT. *Am. Fish. Soc. Symp.* 5:49-59. 1988. FR 34(1)
[Dep. Fish. & Oceans, Fish. Res. Branch, Pac. Biol. Stn., Nanaimo, BC, Canada V9R 5K6] *Clupea harengus pallasi.*

89-001069 Maceina, Michael J.; Brian R. Murphy and J. Jeffery Isely. FACTORS REGULATING FLORIDA LARGEMOUTH BASS STOCKING SUCCESS AND HYBRIDIZATION WITH NORTHERN LARGEMOUTH BASS IN AQUILLA LAKE, TEXAS. *Trans. Am. Fish. Soc.* 117(3):221-231. 1988. FR 34(1)
[S. Fla. Water Manage. Dist., P.O. Box 24680, West Palm Beach 33416] *Micropterus salmoides salmoides* and *M. s. floridanus.*

89-001070 McDowall, Bob. SALMON--WILL THEY RUN IN THE WAIRAU AND THE HOKITIKA? *Freshwater Catch* No. 36. p. 10. 1988. FR 34(1)

89-001071 Snow, Howard E. EFFECTS OF THE INTRODUCTION OF MUSKELLUNGE AND WALLEYE ON BLUEGILL AND OTHER SPECIES IN CLEAR LAKE, SAWYER COUNTY, WISCONSIN, 1959-1984. *Wis. Dep. Nat. Resour. Res. Rep.* No. 147. 17p. 1988. FR 34(1)
[Bur. Res., Box 309, Spooner, WI 54801] *Esox masquinongy, Stizostedion vitreum vitreum, Lepomis macrochirus, Perca flavescens, Ambloplites rupestris,* and *Micropterus salmoides.*

89-001072 Thuemler, Thomas F. MOVEMENTS OF YOUNG LAKE STURGEONS STOCKED IN THE MENOMINEE RIVER, WISCONSIN. *Am. Fish. Soc. Symp.* 5:104-109. 1988. FR 34(1)
[Dep. Nat. Resour., Industrial Parkway, Box 16, Marinette, WI 54143] *Acipenser fulvescens.*

89-001073 Turner, Gary E., editor. CODES OF PRACTICE AND MANUAL OF PROCEDURES FOR CONSIDERATION OF INTRODUCTIONS AND TRANSFERS OF MARINE AND FRESHWATER ORGANISMS. *Int. Counc. Explor. Sea Coop. Res. Rep.* No. 159. 44p. 1988. FR 34(1)
[Int. Counc. Explor. Sea, Palaegade 2-4, 1261 Copenhagen K, Denmark]

STOCKING AND INTRODUCTIONS (CONTINUED)

89-001074 Unwin, Martin; Nelson Boustead and Trevor Washbourne. SALMON TRANSFER TO THE WAIMAKARIRI - PART 2. *Freshwater Catch* No. 38. p. 9-10. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand] *Oncorhynchus tshawytscha* in New Zealand.

FISHING GEAR AND TECHNIQUES

89-001075 Gunawan, Gozalie A. INDIGENOUS FISHING CRAFTS IN JAVA, INDONESIA. *Proc. Asian Fish. Forum* 1:409-412. 1986. FR 34(1)
[Dep. Fish. Resour. Utilization, Fac. Fish., Bogor Agric. Univ., Kampus IPB Darmaga, Bogor, Indonesia]

89-001076 Hovgard, Holger. EFFECTS OF SELECTIVITY ON RESULTS FROM GILLNET SURVEYS FOR YOUNG ATLANTIC COD (*GADUS MORHUA* L.) IN WEST GREENLAND WATERS. *Northwest Atl. Fish. Org. Sci. Counc. Stud.* No. 12. p. 21-25. 1988. FR 34(1)
[Greenland Fish. Res. Inst., Tagensvej 135, DK-2200 Copenhagen N, Denmark]

89-001077 Jeewon Chang. [NET MOUTH AUTOMATIC OPENING STRIPS OF TOWED NET.] *Bull. Korean Fish. Technol.* 24(1):17-21. 1988. In Korean. From Korean Sci. Abstr. 20(5):88/984. 1988. FR 34(1)

89-001078 Jeewon Chang; Jong Man Park and Woon Hee Lee. [LONG RANGE ACTIVE ACOUSTIC SYSTEM FOR FISH FINDING.] *Bull. Korean Fish. Technol.* 24(1):1-6. 1988. In Korean. From Korean Sci. Abstr. 20(5):88/983. 1988. FR 34(1)

89-001079 Kulshreshtha, S. D. TRADITIONAL INLAND FISHING METHODS IN RAJASTHAN, INDIA. *Proc. Asian Fish. Forum* 1:413-416. 1986. FR 34(1)
[Govt. Coll., Kota, Rajasthan 324001, India]

89-001080 Sohn, Tae-Jun. [STUDY ON THE GATHERING EFFECTS OF ANCHOVY SCOOP NET IN THE NEIGHBORING WATERS OF THE CHEJU ISLAND.] *Bull. Korean Fish. Soc.* 21(3):184-192. 1988. In Korean with English summ. FR 34(1)
[Coll. Ocean Sci., Cheju Natl. Univ., Chejudo 690-120, Korea] *Engraulis japonica.*

89-001081 Titus, Robert G. and C. David Vanicek. COMPARATIVE HOOKING MORTALITY OF LURE-CAUGHT LAHONTAN CUTTHROAT TROUT AT HEENAN LAKE, CALIFORNIA. *Calif. Fish Game* 74(4):218-225. 1988. FR 34(1)
[Inst. Limnol., Box 577, S-75122 Uppsala, Sweden] *Oncorhynchus clarki henshawi.*

89-001082 Yamane, Takeshi and Yunosuke Iitaka. THE POT FISHERY OF LAKE BIWA, JAPAN. *Proc. Asian Fish. Forum* 1:397-400. 1986. FR 34(1)
[Dep. Fish., Kinki Univ., Higashiosaka 577, Japan]

FISHWAYS, FISH PASSAGE THROUGH DAMS, ETC.

89-001083 Maiolie, Melo A. FISH AND OPOSSUM SHRIMP ENTRAINMENT IN THE MT. ELBERT PUMPED-STORAGE POWER PLANT. *Ph.D. dissertation, Colo. State Univ.* 127p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):966. 1988. Order No. DA8808958. FR 34(1)

FISHWAYS, FISH PASSAGE THROUGH DAMS, ETC. (CONTINUED)

89-001084 Maule, Alec G.; Carl B. Schreck; C. Samuel Bradford and Bruce A. Barton. PHYSIOLOGICAL EFFECTS OF COLLECTING AND TRANSPORTING EMIGRATING JUVENILE CHINOOK SALMON PAST DAMS ON THE COLUMBIA RIVER. *Trans. Am. Fish. Soc.* 117(3):245-261. 1988. FR 34(1)
[Coop. Fish. Res. Unit, Dep. Fish. & Wildl., Oreg. State Univ., Corvallis 97331] *Oncorhynchus tshawytscha.*

MATHEMATICS, STATISTICAL METHODS, AND MODELING

89-001085 Bennett, Andrew T. D. and Alasdair I. Houston. WHEN TO CHANGE HABITAT. *Trends Ecol. Evol.* 4(1):3-4. 1989. FR 34(1)
[Edward Grey Inst. Field Ornithol., Dep. Zool., Univ. Oxford, S. Parks Rd., Oxford OX1 3PS, England] *Lepomis macrochirus* and *Micropterus salmoides.*

89-001086 Bose, S. K. and B. K. Dutta. MATHEMATICAL MODELING OF WATER QUALITY IN ESTUARIES. *J. Inst. Public Hlth. Eng.* 1986(2):22-31. 1986. From Paryavaran Abstr. 5(1):8801-011. 1988. FR 34(1)
[Calcutta Metropolitan Dev. Authority, Unnayan Bhavan, Salt Lake, Calcutta 700091, India]

89-001087 Brandt, Stephen B.; P. A. Unger; D. M. Mason; R. L. Argyle; L. Wells and D. J. Stewart. MEASURING FISH ABUNDANCES IN THE GREAT LAKES: IS ACOUSTICS A SOUND APPROACH? *Int. Assoc. Great Lakes Res. Conf.* 31:A-5. 1988. Abstract only. FR 34(1)
[Univ. Md., Chesapeake Biol. Lab., Solomons 20688]

89-001088 Burr, Robert L. INFERRING THE DISTRIBUTION OF THE PARAMETERS OF THE VON BERTALANFFY GROWTH MODEL FROM LENGTH MOMENTS. *Can. J. Fish. Aquat. Sci.* 45(10):1779-1788. 1988. In English with French summ. FR 34(1)
[Cent. Quantitative Sci. Fish., For., & Wildl. School Fish., Univ. Wash., Seattle 98195]

89-001089 Burridge, L. E. and K. Haya. THE USE OF A FUGACITY MODEL TO ASSESS THE RISK OF PESTICIDES TO THE AQUATIC ENVIRONMENT ON PRINCE EDWARD ISLAND. *Adv. Environ. Sci. Technol.* No. 22. p. 193-203. 1988. FR 34(1)
[Dep. Fish. & Oceans, Mar. Chem. Div., Biol. Stn., St. Andrews, NB, Canada]

89-001090 Charles, Anthony T. IN-SEASON FISHERY MANAGEMENT: A BAYESIAN MODEL. *Nat. Resour. Model.* 2(4):599-629. 1988. FR 34(1)
[Dep. Finance & Manage. Sci., Saint Mary's Univ., Halifax, NS, Canada B3H 3C3] *Oncorhynchus nerka* in Canada.

89-001091 Chen, Saibin; Seiichi Watanabe and Kazunori Takagi. [GROWTH ANALYSIS ON FISH POPULATION IN THE SENESCENCE WITH SPECIAL REFERENCE TO AN ESTIMATION OF AGE AT END OF REPRODUCTIVE SPAN AND LIFE SPAN.] *Nippon Suisan Gakkaishi* 54(9):1567-1572. 1988. In Japanese with English summ. FR 34(1)
[Dep. Aquat. Biosci., Tokyo Univ. Fish., Kona, Minato, Tokyo 108, Japan]

89-001092 Connell, Des W. and Darryl W. Hawker. USE OF POLYNOMIAL EXPRESSIONS TO DESCRIBE THE BIOCONCENTRATION OF HYDROPHOBIC CHEMICALS BY FISH. *Ecotoxicol. Environ. Saf.* 16(3):242-257. 1988. FR 34(1)

MATHEMATICS, STATISTICAL METHODS, AND MODELING (CONTINUED)

89-001092 CONTINUED
[School Australian Environ. Studies, Griffith Univ., Nathan, Qld. 4111, Australia]

89-001093 Crossland, Norman O. A METHOD FOR EVALUATING EFFECTS OF TOXIC CHEMICALS ON THE PRODUCTIVITY OF FRESHWATER ECOSYSTEMS. *Ecotoxicol. Environ. Saf.* 16(3):279-292. 1988. FR 34(1)
[Shell Res. Ltd., Sittingbourne, Kent ME9 8AG, England]

89-001094 DeAngelis, D. L. STRATEGIES AND DIFFICULTIES OF APPLYING MODELS TO AQUATIC POPULATIONS AND FOOD WEBS. *Ecol. Model.* 43(1/2):57-73. 1988. FR 34(1)
[Environ. Studies Div., Oak Ridge Natl. Lab., Oak Ridge, TN 37831]

89-001095 Die, David J.; Victor R. Restrepo and John M. Hoenig. UTILITY-PER-RECRUIT MODELING: A NEGLECTED CONCEPT. *Trans. Am. Fish. Soc.* 117(3):274-281. 1988. FR 34(1)
[Rosenstiel School Mar. & Atmos. Sci., Univ. Miami, 4600 Rickenbacker Causeway, Miami, FL 33149]

89-001096 Falconer, R. A. and I. C. S. Cox. DETERMINISTIC MODELLING OF VERTICAL CIRCULATION IN SHALLOW LAKES AND RESERVOIRS. *Regul. Rivers Res. Manage.* 2(5):583-596. 1988. FR 34(1)
[Dep. Civil Eng., Univ. Bradford, Bradford, West Yorkshire BD7 1DP, England]

89-001097 Freedman, H. I. and Quan Hongshun. INTERACTIONS LEADING TO PERSISTENCE IN PREDATOR-PREY SYSTEMS WITH GROUP DEFENCE. *Bull. Math. Biol.* 50(5):517-530. 1988. FR 34(1)
[Dep. Math., Univ. Alberta, Edmonton, AB, Canada T6G 2G1]

89-001098 Galassi, S.; M. Mingazzini; L. Vigano; D. Cesareo and M. L. Tosato. APPROACHES TO MODELING TOXIC RESPONSES OF AQUATIC ORGANISMS TO AROMATIC HYDROCARBONS. *Ecotoxicol. Environ. Saf.* 16(2):158-169. 1988. FR 34(1)
[Ist. Ricerca sulle Acque, CNR, Brugherio, Italy] *Oncorhynchus mykiss* and *Poecilia reticulata.*

89-001099 Godbout, Lyse and Robert H. Peters. POTENTIAL DETERMINANTS OF STABLE CATCH IN THE BROOK TROUT (*SALVELINUS FONTINALIS*) SPORT FISHERY IN QUEBEC. *Can. J. Fish. Aquat. Sci.* 45(10):1771-1778. 1988. In English with French summ. FR 34(1)
[Oak Ridge Natl. Lab., Environ. Sci. Div., P.O. Box X, Oak Ridge, TN 37831-6036]

89-001100 Kelley, D. F. THE IMPORTANCE OF ESTUARIES FOR SEA-BASS, *DICENTRARCHUS LABRAX* (L.). *J. Fish Biol.* 33(Suppl. A):25-33. 1988. FR 34(1)
[Old Farm, Trebetherick, Wadebridge, Cornwall, England]

89-001101 Kimoto, Hideaki; Setuhisa Hiyama; Yoshinobu Kamijo and Yasuaki Arie. [A STOCK ANALYSIS METHOD INCORPORATING A REPRODUCTIVE MECHANISM.] *Nippon Suisan Gakkaishi* 54(9):1499-1504. 1988. In Japanese with English summ. FR 34(1)
[Japan Nus Co., Ltd., Shinjuku, Tokyo 163, Japan]

MATHEMATICS, STATISTICAL METHODS, AND MODELING (CONTINUED)

89-001102 Kope, Robert Glenn. ANALYSIS OF FACTORS INFLUENCING THE POPULATION DYNAMICS OF CHINOOK SALMON, *ONCORHYNCHUS TSHAWYTSCHA*, IN CENTRAL CALIFORNIA. *Ph.D. dissertation, Univ. Calif. (Davis)* 122p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):999. 1988. Order NO. DA8809766. FR 34(1)

89-001103 Lee, Lawrence A. and James W. Terrell. HABITAT SUITABILITY INDEX MODELS: FLATHEAD CATFISH. *U.S. Fish Wildl. Serv. Biol. Rep.* 82(10.152):34p. 1987. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., Creekside One, 2627 Redwing Rd., Fort Collins, CO 80526-2899] *Pylodictis olivaris.*

89-001104 Lovejoy, William S. EFFECT OF STOCHASTICITY ON OPTIMAL HARVESTING STRATEGIES IN SOME LUMPED-PARAMETER FISHERY MODELS. *Can. J. Fish. Aquat. Sci.* 45(10):1789-1800. 1988. In English with French summ. FR 34(1)
[Stanford Univ., Stanford, CA 94305-5015]

89-001105 Matsumiya, Yoshiharu and Tadashi Hattori. ASSESSMENT OF HABITABILITY OF O-AGE RED SEA BREAM BY INDEX EXPRESSION. *Bull. Jpn. Soc. Sci. Fish.* 54(11):1907-1911. 1988. In English. FR 34(1)
[Ocean Res. Inst., Univ. Tokyo, Tokyo 164, Japan] *Pagrus major* in Japan.

89-001106 Mee, Laurence D. THE APPLICATION OF CALCULATION MODELS FOR ESTIMATING PRIMARY PRODUCTIVITY IN TWO TOPICAL MEXICAN COASTAL LAGOONS. *Rev. Biol. Trop.* 35(2):183-193. 1987. FR 34(1)
[Int. Lab. Mar. Radioactivity, IAEA, Musee Oceanogr., Monaco]

89-001107 Moreau, Jacques; Claudia Bambino and Daniel Pauly. INDICES OF OVERALL GROWTH PERFORMANCE OF 100 *TILAPIA* (CICHLIDAE) POPULATIONS. *Proc. Asian Fish. Forum* 1:201-206. 1986. FR 34(1)
[Dep. Inland Fish., Fac. Agric., 145 Ave du Muret, 31076 Toulouse, Cedex, France] *T. nilotica* and *T. mossambica.*

89-001108 Murawski, S. A. and J. T. Finn. BIOLOGICAL BASES FOR MIXED-SPECIES FISHERIES: SPECIES CO-DISTRIBUTION IN RELATION TO ENVIRONMENTAL AND BIOTIC VARIABLES. *Can. J. Fish. Aquat. Sci.* 45(10):1720-1735. 1988. In English with French summ. FR 34(1)
[NMFS, Northeast Fish. Cent., Woods Hole, MA 02543] *Pseudopleuronectes americanus, Melanogrammus aeglefinus, Pollachius virens, Limanda ferruginea, Merluccius bilinearis, Gadus morhua,* and *Urophycis chuss* in the North Atlantic.

89-001109 Nurnberg, Gertrud K. A SIMPLE MODEL FOR PREDICTING THE DATE OF FALL TURNOVER IN THERMALLY STRATIFIED LAKES. *Limnol. & Oceanogr.* 33(5):1190-1195. 1988. FR 34(1)
[c/o Minist. Environ., P.O. Box 39, Dorset, ON, Canada P0A 1E0]

89-001110 Oliver, J. Douglas and Tarzan Legovic. OKEFENOKEE MARSHLAND BEFORE, DURING AND AFTER NUTRIENT ENRICHMENT BY A BIRD ROOKERY. *Ecol. Model.* 43(3/4):195-223. 1988. FR 34(1)
[P.O. Box 3162, 33 Lea Rd., Stroud, ON, Canada L0L 2M0]

MATHEMATICS, STATISTICAL METHODS, AND MODELING (CONTINUED)

89-001111 Osborne, Lewis L.; Michael J. Wiley and R. Weldon Larimore. ASSESSMENT OF THE WATER SURFACE PROFILE MODEL: ACCURACY OF PREDICTED INSTREAM FISH HABITAT CONDITIONS IN LOW-GRADIENT, WARMWATER STREAMS. *Regul. Rivers Res. Manage.* 2(5):619-631. 1988. FR 34(1)
[Aquat. Biol. Sect., Ill. State Nat. Hist. Surv., 607 E. Peabody Dr., Champaign 61820]

89-001112 Otis, Keith J. and Michael D. Staggs. ANALYSIS OF FISH TRAWLING DATA FROM LAKE WINNEBAGO, 1962-1981. *Wis. Dep. Nat. Resour. Res. Rep.* No. 146. 25p. 1988. FR 34(1)
[Dep. Nat. Resour., Bur. Res., Box 2565, Oshkosh, WI 54903]

89-001113 Paine, R. T. FOOD WEBS: ROAD MAPS OF INTERACTIONS OR GRIST FOR THEORETICAL DEVELOPMENT? *Ecology* 69(6):1648-1654. 1988. FR 34(1)
[Dep. Zool., Univ. Wash., Seattle 98195]

89-001114 Park, Seok S. and Christopher G. Uchrin. A NUMERICAL MIXING ZONE MODEL FOR WATER QUALITY ASSESSMENT IN NATURAL STREAMS: CONCEPTUAL DEVELOPMENT. *Ecol. Model.* 42(3/4):233-244. 1988. FR 34(1)
[Dep. Environ. Sci., Rutgers Univ., New Brunswick, NJ 08903]

89-001115 Pauly, Daniel and Mina L. Soriano. SOME PRACTICAL EXTENSIONS TO BEVERTON AND HOLT'S RELATIVE YIELD-PER-RECRUIT MODEL. *Proc. Asian Fish. Forum* 1:491-495. 1986. FR 34(1)
[ICLARM, P.O. Box 1501, Makati, Manila, Philippines]

89-001116 Pierce, Bryan E. COMPUTERIZED LITERATURE SEARCHES: THEIR ADVANTAGES AND LIMITATIONS. *Proc. Asian Fish. Forum* 1:425-427. 1986. FR 34(1)
[Dep. Zool., Univ. Adelaide, G.P.O. Box 498, Adelaide, S.A. 5001, Australia]

89-001117 Prager, Michael H. GROUP METHOD OF DATA HANDLING: A NEW METHOD FOR STOCK IDENTIFICATION. *Trans. Am. Fish. Soc.* 117(3):290-296. 1988. FR 34(1)
[Dep. Oceanogr., Old Dominion Univ., Norfolk, VA 23529] *Alosa sapidissima* and *Morone saxatilis*.

89-001118 Recksiek, Conrad; Saul Saila and Michael Prager. PROGRESS ON THE FISHERIES SCIENCE APPLICATIONS FOR MICROCOMPUTERS. *Proc. Asian Fish. Forum* 1:405-408. 1986. FR (1)
[Dep. Fish. Aquacult. & Pathol., Univ. R.I., Kingston 02881]

89-001119 Restrepo, Victor R. and William W. Fox, Jr. PARAMETER UNCERTAINTY AND SIMPLE YIELD-PER-RECRUIT ANALYSIS. *Trans. Am. Fish. Soc.* 117(3):282-289. 1988. FR 34(1)
[Div. Biol. & Living Resour., Rosenstiel School Mar. & Atmos. Sci., Univ. Miami, 4600 Rickenbacker Causeway, Miami, FL 33149]

89-001120 Riley, Michael J. and Heinz G. Stefan. MINLAKE: A DYNAMIC LAKE WATER QUALITY SIMULATION MODEL. *Ecol. Model.* 43(3/4):155-182. 1988. FR 34(1)
[St. Anthony Falls Hydraulic Lab., Dep. Civil & Mineral Eng., Univ. Minn., Minneapolis 55414]

MATHEMATICS, STATISTICAL METHODS, AND MODELING (CONTINUED)

89-001121 Seno, Hiromi. EFFECT OF A SINGULAR PATCH ON POPULATION PERSISTENCE IN A MULTI-PATCH SYSTEM. *Ecol. Model.* 43(3/4):271-286. 1988. FR 34(1)
[Dip. Mat. & Appl., Univ. Studi Napoli, Via Mezzocannone 8, 80134 Napoli, Italy]

89-001122 Silvestre, Geronimo T. YIELD-PER-RECRUIT ANALYSIS OF TEN DEMERSAL FISH SPECIES FROM THE SAMAR SEA, PHILIPPINES. *Proc. Asian Fish. Forum* 1:501-504. 1986. FR 34(1)
[Dep. Mar. Fish., Coll. Fish., Univ. Philippines, Diliman, Quezon City, Philippines]

89-001123 Sullivan, Patrick J. EFFECT OF BOUNDARY CONDITIONS, REGION LENGTH, AND DIFFUSION RATES ON A SPATIALLY HETEROGENEOUS PREDATOR-PREY SYSTEM. *Ecol. Model.* 43(3/4):235-249. 1988. FR 34(1)
[Cent. Quant. Sci. For., Fish. & Wildl., Univ. Wash., HR-20, Seattle 98195]

89-001124 Swanson, Eric D. and Eric P. Bergersen. GRASS CARP STOCKING MODEL FOR COLDWATER LAKES. *N. Am. J. Fish. Manage.* 8(3):284-291. 1988. FR 34(1)
[Game & Fish Dep., 2222 W. Greenway Rd., Phoenix, AZ 85023] *Ctenopharyngodon idella* in Colorado.

89-001125 Vlad, Marcel Ovidiu. A NEW NONLINEAR MODEL FOR THE GROWTH OF AGE-STRUCTURED POPULATIONS LIVING IN PATCHY HABITATS. *Ecol. Model.* 43(3/4):251-269. 1988. FR 34(1)
[CIMC, Casuta postala 77-49, Bucharest 77, Romania]

89-001126 Wilds, Leah J. THE LEGAL-INSTITUTIONAL ANALYSIS MODEL (LIAM): A VALIDATION STUDY. INSTREAM FLOW INFORMATION PAPER NO. 25. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(33):73p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 2627 Redwing Rd., Fort Collins, CO 80526-2899. FR 34(1)
[Aquat. Syst. Branch, Natl. Ecol. Res. Cent., U.S. Fish & Wildl. Serv., 2627 Redwing Rd., Fort Collins, CO 80526-2899]

89-001127 Young, John R.; Thomas B. Hoff; William P. Dey and James G. Hoff. MANAGEMENT RECOMMENDATIONS FOR A HUDSON RIVER ATLANTIC STURGEON FISHERY BASED ON AN AGE-STRUCTURED POPULATION MODEL. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 353-365. 1988. FR 34(1)
[Consolidated Edison, Environ. Affairs, Rm. 306-S, 4 Irving Pl., New York, NY 10003] *Acipenser oxyrhynchus* in New York.

LAKE MANAGEMENT AND RESEARCH

89-001128 Bettoli, Phillip William. THE RESTRUCTURING OF A FORAGE FISH COMMUNITY FOLLOWING LARGE-SCALE AQUATIC VEGETATION CONTROL. *Ph.D. dissertation, Tex. A&M Univ.* 161p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):997. 1988. Order No. DA8808735. FR 34(1)
Ctenopharyngodon idella, Labidesthes sicculus, Menidia beryllina, Pimephales vigilax, Notropis venustus, Dorosoma cepedianum, D. petenense, Lepomis macrochirus, L. megalotis, and *L. microlophus* in Texas.

LAKE MANAGEMENT AND RESEARCH (CONTINUED)

89-001129 Brown, Tommy L.; Fredric C. Menz and Barbara A. Knuth. THE STATE OF LAKE ONTARIO: SOCIOECONOMIC RESEARCH PROGRESS AND NEEDS. *Int. Assoc. Great Lakes Res. Conf.* 31:A-6. 1988. Abstract only. FR 34(1)
[Dep. Nat. Resour., Cornell Univ., Fernow Hall, Ithaca, NY 14853]

89-001130 Cairns, Victor W.; C. B. Portt and S. Painter. FISH HABITAT IN HAMILTON HARBOUR AND REMEDIAL OPTIONS FOR A RESTORED FISHERY. *Int. Assoc. Great Lakes Res. Conf.* 31:A-7. 1988. Abstract only. FR 34(1)
[GLLFAS, Bayfield Inst., Canada Cent. Inland Waters, 867 Lakeshore Rd., Burlington, ON, Canada L7R 4A6]

89-001131 Carpenter, Stephen R. and James F. Kitchell. CONSUMER CONTROL OF LAKE PRODUCTIVITY. *BioScience* 38(11):764-769. 1988. FR 34(1)
[Dep. Biol. Sci., Univ. Notre Dame, Notre Dame, IN 46556]

89-001132 Casselman, J. M.; W. J. Christie and K. A. Scott. THE DYNAMICS OF THE FISH COMMUNITY OF THE OUTLET BASIN OF LAKE ONTARIO--RECENT TRENDS. *Int. Assoc. Great Lakes Res. Conf.* 31:A-7. 1988. Abstract only. FR 34(1)
[Minist. Nat. Resour., R.R. #4, Picton, ON, Canada K0K 2T0]

89-001133 Cattarin, D. A. and J. R. Spotila. ARTIFICIAL REEF IN LAKE ERIE ENHANCES THE FISH COMMUNITY NEAR BUFFALO, NEW YORK. *Int. Assoc. Great Lakes Res. Conf.* 31:A-7. 1988. Abstract only. FR 34(1)
Dep. Biol., S.U.C.B., 1300 Elmwood Ave., Buffalo, NY 14222]

89-001134 Heinermann, P. H. and M. A. Ali. SEASONAL CHANGES IN THE UNDERWATER LIGHT CLIMATE OF TWO CANADIAN SHIELD LAKES. *Hydrobiologia* 169(1):107-121. 1988. FR 34(1)
[Dep. Sci. Biol., Univ. Montreal, C.P. 6128, Succursale 'A', Montreal, PQ, Canada H3C 3J7]

89-001135 Holmes, John A. HISTORICAL CHANGES IN HAMILTON HARBOUR FISHERIES. *Int. Assoc. Great Lakes Res. Conf.* 31:A-24. 1988. Abstract only. FR 34(1)
[Dep. Zool., Univ. Toronto, Toronto, ON, Canada M5S 1A1]

89-001136 International Association for Great Lakes Research. INTERNATIONAL ASSOCIATION FOR GREAT LAKES RESEARCH 31st CONFERENCE: PROGRAM AND ABSTRACTS. May 17-20, 1988, McMaster University, (Hamilton, Ontario). 57p. 1988. FR 34(1)
Selected abstracts indexed in this issue of *Fisheries Review*.

89-001137 Kelso, J. R. M. FISH COMMUNITY STRUCTURE, BIOMASS, AND PRODUCTION IN THE TURKEY LAKES WATERSHED, ONTARIO. *Can. J. Fish. Aquat. Sci.* 45(Suppl. 1):115-120. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, Great Lakes Lab. Fish. & Aquat. Sci., Ship Canal Post Office, Canal Dr., Sault Ste. Marie, ON, Canada P6A 1P0]

89-001138 Manny, Bruce A. and Robert D. Pacific. RESTORATION OF FISH AND WILDLIFE HABITAT IN GREAT LAKES AREAS OF CONCERN. *Int. Assoc. Great Lakes Res. Conf.* 31:A-35. 1988. Abstract only. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent.-Great Lakes, 1451 Green Rd., Ann Arbor, MI 48105]

LAKE MANAGEMENT AND RESEARCH (CONTINUED)

89-001139 McCarty, Cecil Eugene. FISH POPULATIONS OF SIX OXBOW LAKES WITHIN THE ANGELINA AND NECHES RIVER BASINS, TEXAS. *M.S. thesis, Stephen F. Austin State Univ.* 65p. 1987. From Masters Abstr. Int. 26(4):405. 1988. Order No. MA1332833. FR 34(1)

89-001140 Portt, Cameron B.; V. W. Cairns and C. K. Minns. THE FISHERY OF HAMILTON HARBOUR. *Int. Assoc. Great Lakes Res. Conf.* 31:A-44. 1988. Abstract only. FR 34(1)
[Portt & Assoc., 56 Waterloo Ave., Guelph, ON, Canada N1H 3H5]

RIVER AND STREAM MANAGEMENT AND RESEARCH

89-001141 Aprahamian, M. W.; C. D. Strange and C. Dimond. MOVEMENT OF ATLANTIC SALMON, *SALMO SALAR* L., INTO THE RIVER USK, SOUTH WALES, IN RELATION TO WATER QUALITY. *J. Fish Biol.* 33(Suppl. A):245-247. 1988. FR 34(1)
[Fish. Tech. Unit, Welsh Water Authority, Llandegfedd Reservoir, Sluvad Rd., Pontypool, Gwent NP4 0TA, Wales]

89-001142 Arthington, A. H.; R. J. McKay and D. A. Milton. THE ECOLOGY AND MANAGEMENT OF EXOTIC AND ENDEMIC FRESHWATER FISHES IN QUEENSLAND. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor.* p. 224-245. 1986. FR 34(1)

89-001143 Barker, Richard. CRAWL DIVES - A USEFUL FISH CENSUS METHOD. *Freshwater Catch* No. 38. p. 22-23. 1988. FR 34(1)

89-001144 Coates, David. FISHERIES DEVELOPMENT OF THE SEPIK RIVER, PAPUA NEW GUINEA: PROPOSED FISH INTRODUCTIONS. *Proc. Asian Fish. Forum* 1:367-370. 1986. FR 34(1)
[Dep. Primary Ind. Fish. Res. & Surveys Branch, P.O. Box 417, Konedobu, Papua New Guinea]

89-001145 Copp, Gordon H. and Milan Penaz. ECOLOGY OF FISH SPAWNING AND NURSERY ZONES IN THE FLOOD PLAIN, USING A NEW SAMPLING APPROACH. *Hydrobiologia* 169(2):209-224. 1988. FR 34(1)
[East. Rivers Group, FBA, c/o Regional Fish. Lab., Bromholm Ln., Brampton, Huntingdon, Cambridgeshire, England]

89-001146 Douglas, Aaron J. ANNOTATED BIBLIOGRAPHY OF ECONOMIC LITERATURE ON INSTREAM FLOWS. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(39):36p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 2627 Redwing Rd., Creekside One, Fort Collins, CO 80526-2899. FR 34(1)
[Natl. Ecol. Res. Cent., 2627 Redwing Rd., Fort Collins, CO 80526-2899]

89-001147 Haughey, Arthur. REGIONAL MODIFICATIONS TO WATERWAYS: PART XV: AUCKLAND. *Freshwater Catch* No. 36. p. 3-5. 1988. FR 34(1)

89-001148 Heggenes, Jan. SUBSTRATE PREFERENCES OF BROWN TROUT FRY *(SALMO TRUTTA)* IN ARTIFICIAL STREAM CHANNELS. *Can. J. Fish. Aquat. Sci.* 45(10):1801-1806. 1988. In English with French summ. FR 34(1)
[Dep. Nat. Conserv.., Agric. Univ. Norway, Box 39, 1432 As-NLH, Norway]

RIVER AND STREAM MANAGEMENT AND RESEARCH (CONTINUED)

89-001149 Hunt, Robert L. A COMPENDIUM OF 45 TROUT STREAM HABITAT DEVELOPMENT EVALUATIONS IN WISCONSIN DURING 1953-1985. *Wis. Dep. Nat. Resour. Tech. Bull.* No. 162. 80p. 1988. FR 34(1)
[Dep. Nat. Resour., Rt. 1, Box 589, Waupaca, WI 54981]

89-001150 Kauss, Peter B. BIOTA OF THE ST. MARYS RIVER: HABITAT EVALUATION AND ENVIRONMENTAL ASSESSMENT. *Int. Assoc. Great Lakes Res. Conf.* 31:A-27. 1988. Abstract only. FR 34(1)
[Minist. Environ., 1 St. Clair Ave. W., Toronto, ON, Canada M4V 1K6]

89-001151 Klauda, Ronald J.; Paul H. Muessig and John A. Matousek. FISHERIES DATA SETS COMPILED BY UTILITY-SPONSORED RESEARCH IN THE HUDSON RIVER ESTUARY. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 7-85. 1988. FR 34(1)
[Johns Hopkins Univ., Appl. Physics Lab., Shady Side, MD 20764]

89-001152 Leslie, Jeffrey A.; Karim A. Abood; Edward A. Maikish and Pamela J. Keeser. RECENT DISSOLVED OXYGEN TRENDS IN THE HUDSON RIVER. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 287-303. 1988. FR 34(1)
[3 Greenway, Sloatsburg, NY]

89-001153 Matthews, William J.; Robert C. Cashner and Frances P. Gelwick. STABILITY AND PERSISTENCE OF FISH FAUNAS AND ASSEMBLAGES IN THREE MIDWESTERN STREAMS. *Copeia* 1988(4):945-955. 1988. FR 34(1)
[Univ. Okla., Biol. Stn. & Dep. Zool., Kingston 73439]

89-001154 McLaren, James B.; Ronald J. Klauda; Thomas B. Hoff and Marcia Gardinier. COMMERCIAL FISHERY FOR STRIPED BASS IN THE HUDSON RIVER, 1931-80. *In: Fisheries Research in the Hudson River. C. Lavett Smith, editor.* p. 89-123. 1988. FR 34(1)
[Beak Consult. Inc., 12072 Main Rd., Akron, NY 14001] *Morone saxatilis* in New York.

89-001155 Munn, Nancy L. and Judy L. Meyer. RAPID FLOW THROUGH THE SEDIMENTS OF A HEADWATER STREAM IN THE SOUTHERN APPALACHIANS. *Freshwater Biol.* 20(2):235-240. 1988. FR 34(1)
[Inst. Ecol., Univ. Ga., Athens 30602]

89-001156 Naiman, Robert J.; Carol A. Johnston and James C. Kelley. ALTERATION OF NORTH AMERICAN STREAMS BY BEAVER. *BioScience* 38(11):753-762. 1988. FR 34(1)
[Cent. Streamside Studies, AR-10, Univ. Wash., Seattle 98195]

89-001157 Raley, Catherine; Wayne Hubert and Stanley Anderson. MAINTENANCE OF FLOWS DOWNSTREAM FROM WATER DEVELOPMENT PROJECTS IN COLORADO, MONTANA, AND WYOMING. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(27) (Appendix A):119p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 2627 Redwing Rd., Creekside One, Fort Collins, CO 80526-2899. FR 34(1)
[Coop. Fish & Wildl. Res. Unit, Univ. Stn., Box 3166, Univ. Wyo., Laramie 82701]

89-001158 Raley, Catherine; Wayne Hubert and Stanley Anderson. MAINTENANCE OF FLOWS DOWNSTREAM FROM WATER DEVELOPMENT PROJECTS IN COLORADO, MONTANA, AND WYOMING. *U.S. Fish Wildl. Serv. Biol. Rep.* 88(27):73p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Ecol. Res. Cent., 2627 Redwing Rd., Creekside One, Fort Collins, CO 80526-2899. FR 34(1)
[Coop. Fish & Wildl. Res. Unit, Univ. Stn., Box 3166, Univ. Wyo., Laramie 82071]

RIVER AND STREAM MANAGEMENT AND RESEARCH (CONTINUED)

89-001159 Shaw, D. J. RANKING OF WATERS FOR FISHERIES VALUES. *Freshwater Catch* No. 38. p. 19-21. 1988. FR 34(1)

89-001160 Smith, C. Lavett, editor. FISHERIES RESEARCH IN THE HUDSON RIVER. *State Univ. N.Y. Press* 407p. 1988. FR 34(1)
[Am. Mus. Nat. Hist., New York, NY 10024] Selected chapters indexed in this issue of *Fisheries Review*.

89-001161 Teirney, Laurel. FACTS, FIGURES, AND PERCEPTIONS ABOUT RIVER ANGLING IN NEW ZEALAND. *Freshwater Catch* No. 36. p. 14-18. 1988. FR 34(1)

89-001162 Thornley, Stewart. HABITAT EVALUATION AND ASSESSMENT OF THE ST. CLAIR RIVER. *Int. Assoc. Great Lakes Res. Conf.* 31:A-54. 1988. Abstract only. FR 34(1)
[Minist. Environ., 985 Adelaide St. S., London, ON, Canada N6E 1V3]

89-001163 Todd, Peter and Martin Unwin. A USER-FUNDED SALMON ENHANCEMENT PROGRAMME. *Freshwater Catch* No. 38. p. 11-12. 1988. FR 34(1)
[Minist. Agric. & Fish., P.O. Box 8324, Riccarton, Christchurch, New Zealand] *Oncorhynchus tshawytscha* in New Zealand.

FARM POND AND SMALL IMPOUNDMENT MANAGEMENT AND RESEARCH

89-001164 Alletson, D. J. TROUT DAM MANAGEMENT. *Wildl. Manage. Tech. Guide Farmers (S. Afr.)* No. 19. 1988. In English and Africaans. FR 34(1)
[Natal Parks Board, P.O. Box 662, Pietermaritzburg 3200, South Africa] *Salmo trutta* and *Oncorhynchus mykiss* in South Africa.

89-001165 Wissmath, Peter; Ulrich Wunner and Ulrich Limburg. [IS FISHERIES MANAGEMENT WITH POND DREDGING NECESSARY?] *Osterreichs Fischerei* 41(5/6):111-115. 1988. In German. FR 34(1)
[Fachberatung Fischerei Bezirk Oberbayern, D-8000 Munich 22, Widenmayerstr. 2, West Germany]

LARGE IMPOUNDMENT MANAGEMENT AND RESEARCH

89-001166 Chandrasoma, Jayantha. TRENDS IN RESERVOIR FISHERIES IN SRI LANKA WITH SPECIAL REFERENCE TO *ETROPLUS SURATENSIS, TILAPIA RENDALLI* AND *OREOCHROMIS NILOTICUS*. *Proc. Asian Fish. Forum* 1:353-356. 1986. FR 34(1)
[Fresh Water Fish Breeding & Exp. Stn., Udawalawe, Sri Lanka]

89-001167 Pawaputanon, Oopatham. FISHERIES AND FISHERY MANAGEMENT OF LARGE RESERVOIRS IN THAILAND. *Proc. Asian Fish. Forum* 1:389-392. 1986. FR 34(1)
[Nongkai Fish. Stn., Sricheangmai, Nongkai, Thailand] *Labeo rohita, Pangasius sutchi*, and *Tilapia nilotica*.

ESTUARY MANAGEMENT AND RESEARCH

89-001168 Antunes, M. M.; P. L. da Cunha; A. P. Duarte and E. P. Mendonca. RIA DE ALVOR AS A SPAWNING PLACE AND A NURSERY GROUND. *J. Fish Biol.* 33(Suppl. A):185-190. 1988. FR 34(1)
[Estrada Nac. No. 10, 2685 Sacavem, Portugal]

ESTUARY MANAGEMENT AND RESEARCH (CONTINUED)

89-001169 Bamber, R. N. and P. A. Henderson. PRE-ADAPTIVE PLASTICITY IN ATHERINIDS AND THE ESTUARINE SEAT OF TELEOST EVOLUTION. *J. Fish Biol.* 33(Suppl. A):17-23. 1988. FR 34(1)
[Mar. Biol. Unit, C.E.G.B., Fawley Power Stn., Fawley, Southampton SO4 1TW, England] *Atherina boyeri*.

89-001170 Bell, Johann D.; Aldo S. Steffe and Mark Westoby. LOCATION OF SEAGRASS BEDS IN ESTUARIES: EFFECTS ON ASSOCIATED FISH AND DECAPODS. *J. Exp. Mar. Biol. Ecol.* 122(2):127-146. 1988. FR 34(1)
[Fish. Res. Inst., Dep. Agric. & Fish., P.O. Box 21, Cronulla, N.S.W. 2230, Australia]

89-001171 Bergman, M. J. N.; H. W. van der Veer and J. J. Zijlstra. PLAICE NURSERIES: EFFECTS ON RECRUITMENT. *J. Fish Biol.* 33(Suppl. A):201-218. 1988. FR 34(1)
[Netherlands Inst. Sea Res., P.O. Box 59, 1790 AB Den Burg Texel, Netherlands] *Pleuronectes platessa* in the North Atlantic.

89-001172 Coggan, R. A. and P. R. Dando. MOVEMENTS OF JUVENILE DOVER SOLE, *SOLEA SOLEA* (L.), IN THE TAMAR ESTUARY, SOUTH-WESTERN ENGLAND. *J. Fish Biol.* 33(Suppl. A):177-184. 1988. FR 34(1)
[Mar. Biol. Assoc., Citadel Hill, Plymouth, Devon PL1 2PB, England]

89-001173 Conlan, K.; K. Hendry; K. N. White and S. J. Hawkins. DISUSED DOCKS AS HABITATS FOR ESTUARINE FISH: A CASE STUDY OF PRESTON DOCK. *J. Fish Biol.* 33(Suppl. A):85-91. 1988. FR 34(1)
[Dep. Environ. Biol., Univ. Manchester, Oxford Rd., Manchester, England]

89-001174 Costa, M. J. THE TAGUS AND MIRA ESTUARIES (PORTUGAL) AND THEIR ROLE AS SPAWNING AND NURSERY AREAS. *J. Fish Biol.* 33(Suppl. A):249-250. 1988. FR 34(1)
[Dep. Zool., Univ. Lisbon, Lisbon, Portugal]

89-001175 Curran, J. C. and A. R. Henderson. THE OXYGEN REQUIREMENTS OF A POLLUTED ESTUARY FOR THE ESTABLISHMENT OF A MIGRATORY SALMON, *SALMO SALAR* L., POPULATION. *J. Fish Biol.* 33(Suppl. A):63-69. 1988. FR 34(1)
[Clyde River Purification Board, E. Kilbride, Glasgow G75 0LA, Scotland]

89-001176 Cyrus, D. P. EPISODIC EVENTS AND ESTUARIES: EFFECTS OF CYCLONIC FLUSHING ON THE BENTHIC FAUNA AND DIET OF *SOLEA BLEEKERI* (TELEOSTEI) IN LAKE ST. LUCIA ON THE SOUTH-EASTERN COAST OF AFRICA. *J. Fish Biol.* 33(Suppl. A):1-7. 1988. FR 34(1)
[Coastal Res. Unit Zululand, Dep. Zool., Univ. Zululand, Private Bag X1001, Kwa Dlangezwa 3886, Natal, South Africa]

89-001177 Elliott, M.; A. H. Griffiths and C. J. L. Taylor. THE ROLE OF FISH STUDIES IN ESTUARINE POLLUTION ASSESSMENT. *J. Fish Biol.* 33(Suppl. A):51-61. 1988. FR 34(1)
[Corp. Environ. Unit, CEGB, London EC4P 4EB, England]

89-001178 Henderson, P. A. and A. R. Margetts, editors. FISH IN ESTUARIES - THE FISHERIES SOCIETY OF THE BRITISH ISLES/ESTUARINE AND BRACKISH-WATER SCIENCES ASSOCIATION SYMPOSIUM HELD IN SOUTHAMPTON, U.K. 18-22 JULY 1988. *J. Fish Biol.* 33(Suppl. A):1-254. 1988. FR 34(1)
[Mar. Biol. Unit, Cent. Electricity Res. Lab., Fawley, Southampton, England] Individual papers indexed in this issue of *Fisheries Review*.

ESTUARY MANAGEMENT AND RESEARCH (CONTINUED)

89-001179 Hendry, K.; K. Conlan; K. N. White; A. Brewsher and S. J. Hawkins. DISUSED DOCKS AS A HABITAT FOR ESTUARINE FISH: A NATIONWIDE APPRAISAL. *J. Fish Biol.* 33(Suppl. A):239-241. 1988. FR 34(1)
[Dep. Environ. Biol., Univ. Manchester, Oxford Rd., Manchester M13 9PL, England]

89-001180 Lewis, Roy R. III and Ernest D. Estevez. THE ECOLOGY OF TAMPA BAY, FLORIDA: AN ESTUARINE PROFILE. *U.S. Fish Wildl. Serv. Biol. Rep.* 85(7.18):132p. 1988. Available from U.S. Fish & Wildl. Serv., Natl. Wetlands Res. Cent., 1010 Gause Blvd., Slidell, LA 70458. FR 34(1)
[Mangrove Syst., Inc., P.O. Box 290197, Tampa, FL 33687]

89-001181 Martin, T. J. INTERACTION OF SALINITY AND TEMPERATURE AS A MECHANISM FOR SPATIAL SEPARATION OF THREE CO-EXISTING SPECIES OF AMBASSIDAE (CUVIER) (TELEOSTEI) IN ESTUARIES ON THE SOUTH-EAST COAST OF AFRICA. *J. Fish Biol.* 33(Suppl. A):9-15. 1988. FR 34(1)
[Coastal Res. Unit Zululand, Dep. Zool., Univ. Zululand, Private Bag X1001, Kwa Dlangezwa 3886, Natal, South Africa] *Ambassis natalensis, N. productus,* and *N. gynmocephalus.*

89-001182 McIvor, Carole Craven. MARSH FISH COMMUNITY STRUCTURE: ROLES OF GEOMORPHOLOGY AND SALINITY. *Ph.D. dissertation, Univ. Va.* 143p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(6):2041. 1988. Order No. DA8819828. FR 34(1)

89-001183 Odum, William E. COMPARATIVE ECOLOGY OF TIDAL FRESHWATER AND SALT MARSHES. *Annu. Rev. Ecol. Syst.* 19:147-176. 1988. FR 34(1)
[Dep. Environ. Sci., Clark Hall, Univ. Va., Charlottesville 22903]

89-001184 Peterson, Mark Stephen. ECOLOGICAL AND PHYSIOLOGICAL FACTORS AFFECTING THE ASSEMBLY OF LITTORAL FISH COMMUNITIES ALONG AN ENVIRONMENTAL GRADIENT. *Ph.D. dissertation, Univ. South. Miss.* 132p. 1987. From Diss. Abstr. Int. B Sci. Eng. 49(4):1000. 1988. Order No. DA8806660. FR 34(1)
Lepomis spp.

89-001185 Pomfret, J. R.; G. S. Turner and S. Phillips. BEAM TRAWL SURVEYS AS A MONITORING TOOL IN POLLUTED ESTUARIES IN NORTH-EAST ENGLAND. *J. Fish Biol.* 33(Suppl. A):71-77. 1988. FR 34(1)
[Northumbrian Water, Howdon, Wallsend, Tyne & Wear NE28 0QD, England]

89-001186 Priede, I. G.; J. F. de L. G. Solbe; J. E. Nott; K. T. O'Grady and D. Cragg-Hine. BEHAVIOUR OF ADULT ATLANTIC SALMON, *SALMO SALAR* L., IN THE ESTUARY OF THE RIVER RIBBLE IN RELATION TO VARIATIONS IN DISSOLVED OXYGEN AND TIDAL FLOW. *J. Fish Biol.* 33(Suppl. A):133-139. 1988. FR 34(1)
[Univ. Aberdeen, Dep. Zool., Tillydrone Ave., Aberdeen AB9 2TN, Scotland]

89-001187 Robin, J.-P. COMPARATIVE ANALYSIS OF THE EFFECT OF A POWER STATION AND OF SMALL-MESH FISHERIES ON THE JUVENILE POPULATIONS OF SMELT AND FLOUNDER IN THE LOIRE ESTUARY: PRESENTATION OF METHODS. *J. Fish Biol.* 33(Suppl. A):243-244. 1988. FR 34(1)
[Lab. Biol. Mar., Univ. Nantes, 2 rue Houssiniere, 44072-Nantes Cedex 03, France] *Osmerus eperlanus* and *Platichthys flesus* in France.

89-001188 Solomon, D. J. and E. C. E. Potter. FIRST RESULTS WITH A NEW ESTUARINE FISH TRACKING SYSTEM. *J. Fish Biol.* 33(Suppl. A):127-132. 1988. FR 34(1)

ESTUARY MANAGEMENT AND RESEARCH (CONTINUED)

89-001188 CONTINUED
[Foundry Farm, Kiln Ln., Redlynch, Salisbury, Wiltshire, England] *Salmo salar* in England.

89-001189 Turnpenny, A. W. H. FISH IMPINGEMENT AT ESTUARINE POWER STATIONS AND ITS SIGNIFICANCE TO COMMERCIAL FISHING. *J. Fish Biol.* 33(Suppl. A):103-110. 1988. FR 34(1)
[Cent. Electricity Res. Lab., Mar. Biol. Unit, Fawley, Southampton SO4 1TW, England] *Gadus morhua, Merlangius merlangus, Pleuronectes platessa, Limanda limanda, Solea solea,* and *Clupea harengus* in the United Kingdom.

89-001190 Wheeler, Alwyne. FISH IN ESTUARIES: A SUMMING UP. *J. Fish Biol.* 33(Suppl. A):251-254. 1988. FR 34(1)
[Dep. Zool., British Mus. Nat. Hist., London SW7 5BD, England]

89-001191 Wilson, K. W.; B. J. D'Arcy and S. Taylor. THE RETURN OF FISH TO THE MERSEY ESTUARY. *J. Fish Biol.* 33(Suppl. A):235-238. 1988. FR 34(1)
[North West Water, Warrington, England]

89-001192 Wright, David A. and David J. H. Phillips. CHESAPEAKE AND SAN FRANCISCO BAYS - A STUDY IN CONTRASTS AND PARALLELS. *Mar. Pollut. Bull.* 19(9):405-413. 1988. FR 34(1)
[Chesapeake Biol. Lab., Univ. Md., Box 38, Solomons 20688-0038]

89-001193 Yanez-Arancibia, A.; A. L. Lara-Dominguez; J. L. Rojas-Galaviz; P. Sanchez-Gil; J. W. Day, Jr. and C. J. Madden. SEASONAL BIOMASS AND DIVERSITY OF ESTUARINE FISHES COUPLED WITH TROPICAL HABITAT HETEROGENEITY (SOUTHERN GULF OF MEXICO). *J. Fish Biol.* 33(Suppl. A):191-200. 1988. FR 34(1)
[Inst. Cienc. Mar. & Limnol., UNAM, Apdo. 70-305, 04510 Mexico, DF, Mexico]

MARINE MANAGEMENT AND RESEARCH

89-001194 Abrea, Renoir A.; Nathaniel C. Mendoza ; Cesaria S. Reyes; Lea C. Angsinco; Rodrigo E. Acuna and Manuel M. Tan. SMALL-SCALE FISHERIES OF ILIGAN BAY, PHILIPPINES. *Proc. Asian Fish. Forum* 1:341-344. 1986. FR 34(1)
[Mindanao State Univ., Inst. Fish. Res. & Dev., Naawan, Misamis Oriental 8418, Philippines]

89-001195 Bergstad, Odd Aksel and Bjornar Isaksen. DEEP-WATER RESOURCES OF THE NORTHEAST ATLANTIC: DISTRIBUTION, ABUNDANCE AND EXPLOITATION. *Fisken Havet* 1987(3):1-56. 1987. FR 34(1)
[Dep. Fish. Biol., Univ. Bergen, P.O. Box 1839, Nordnes N-5024 Bergen, Norway]

89-001196 Bouchon-Navaro, Yolande. PARTITIONING OF FOOD AND SPACE RESOURCES BY CHAETODONTID FISHES ON CORAL REEFS. *J. Exp. Mar. Biol. Ecol.* 103(1-3):21-40. 1986. FR 34(1)
[Lab. Biol. Anim., Univ. Antilles-Guyane, B.P. 592, 97167 Point-a-Pitre, Guadeloupe, West Indies]

MARINE MANAGEMENT AND RESEARCH (CONTINUED)

89-001197 Chapau, Molean R. DEVELOPMENT OF DEEP SEA FISHING IN THE EAST SEPIK PROVINCE, PAPUA NEW GUINEA. *Proc. Asian Fish. Forum* 1:357-359. 1986. FR 34(1)
[Dep. Primary Ind. Wewak Fish. Field Lab., P.O. Box 434, Wewak, Papua New Guinea]

89-001198 Craik, W. RECREATIONAL FISHING ON THE GREAT BARRIER REEF: RESEARCH FINDINGS. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 178-198. 1986. FR 34(1)

89-001199 Dalzell, P. and A. Wright. AN ASSESSMENT OF THE EXPLOITATION OF CORAL REEF FISHERY RESOURCES IN PAPUA NEW GUINEA. *Proc. Asian Fish. Forum* 1:477-481. 1986. FR 34(1)
[Dep. Fish. & Mar. Resour., P.O. Box 165, Konedobu, Papua New Guinea]

89-001200 Diaz Diaz, Maria Elena and M. Gregory Hammann. TROPHIC RELATIONS AMONG FISHES ASSOCIATED TO A KELP FOREST, *MACROCYSTIS PYRIFERA*, IN BAHIA DE TODOS SANTOS, BAJA CALIFORNIA, MEXICO. *Cienc. Mar.* 13(4):81-96. 1988. In English and Spanish. FR 34(1)
[Univ. Guadalajara, Fac. Cienc., Blvd. Tlaquepaque & Corregidora s/n, Guadalajara, Jalisco, Mexico] *Semicossiphus pulcher, Halichoeres semicinctus, Oxyjulis californica, Paralabrax clathratus,* and *Sebastes atrovirens.*

89-001201 FAO of the UN. GENERAL FISHERIES COUNCIL FOR THE MEDITERRANEAN (GFUM) REPORT OF THE EIGHTEENTH SESSION MONACO, 6-10 OCTOBER 1986. *Gen. Fish. Counc. Mediterr. Sess. Rep.* 18:55p. 1987. FR 34(1)

89-001202 FAO of the UN. YEARBOOK OF FISHERY STATISTICS - CATCHES AND LANDINGS, 1986. *FAO Fish. Ser.* 62:479p. 1988. In English with French and Spanish summ. Available from Distrib. & Sales Sect., FAO, Via della Terme Caracalla, 00100 Rome, Italy. FR 34(1)
[Fish. Inform., Data & Stat. Serv., Fish. Dep., FAO, Via della Terme Caracalla, 00100 Rome, Italy]

89-001203 Frusher, S. D. UTILIZATION OF SMALL-SCALE FISH AGGREGATION DEVICES BY PAPUA NEW GUINEA'S ARTISANAL FISHERMEN. *Proc. Asian Fish. Forum* 1:371-374. 1986. FR 34(1)
[Dep. Biol. Sci., James Cook Univ., Townsville, Qld., Australia] *Katsuwonus pelamis* and *Thunnus albacares.*

89-001204 Fry, Brian. FOOD WEB STRUCTURE ON GEORGES BANK FROM STABLE C, N, AND S ISOTOPIC COMPOSITIONS. *Limnol. & Oceanogr.* 33(5):1182-1190. 1988. FR 34(1)
[Ecosyst. Cent., Mar. Biol. Lab., Woods Hole, MA 02543]

89-001205 Go, You-Bong and Heau-Sub Shin. [SPECIES OCCURRENCE AND FOOD CHAIN OF FISHERIES RESOURCES, NEKTON, ON THE COAST OF PUKCHON, CHEJU ISLAND. I. SPECIES COMPOSITION AND DIVERSITY.] *Bull. Korean Fish. Soc.* 21(3):131-138. 1988. In Korean with English summ. FR 34(1)
[Dep. Oceanogr., Cheju Natl. Univ., Chejudo 690-120, Korea] *Trachurus japonicus, Chromis notatus,* and *Siganus fuscescens.*

89-001206 Goeden, G. B. THE EFFECTS OF SELECTIVELY FISHING REEF FISH STOCKS ALONG THE GREAT BARRIER REEF. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 199-207. 1986. FR 34(1)

MARINE MANAGEMENT AND RESEARCH (CONTINUED)

89-001207 Gorham, Jonathan Charles. THE EFFECTS OF MAN MADE STRUCTURES ON NEARBY RESIDENT FISH COMMUNITIES. *Ph.D. dissertation, Fla. Inst. Technol.* 56p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(4):998-999. 1988. Order No. DA8809200. FR 34(1)

89-001208 Hood, Donald W. and Steven T. Zimmerman, editors. THE GULF OF ALASKA - PHYSICAL ENVIRONMENT AND BIOLOGICAL RESOURCES. *U.S. Dep. Commerce/U.S. Dep. Interior* 655p. 1987. FR 34(1)
Selected papers indexed in this issue of *Fisheries Review*.

89-001209 Hunter, Mark A. RELATIVE DISTRIBUTIONS OF FIVE COHO STOCKS CAUGHT IN WEST COAST OF VANCOUVER ISLAND TROLL FISHERY (1979-1984). *Wash. Dep. Fish. Tech. Rep.* No. 103. 56p. 1988. Available from Dep. Fish., 115 General Admin. Bldg., Olympia, WA 98504. FR 34(1)
Oncorhynchus kisutch.

89-001210 Ikematsu, Masato and Tsunenori Kusakawa. [STUDY ON DISTRIBUTION OF THE MARINE PRODUCTS OF PRODUCING AREAS IN SHIZUOKA PREFECTURE. II. A CONSIDERATION ON THE LANDINGS AND ON THE SHIPMENT OF MACKERELS THROUGH KOGAWA FISH WHOLESALE MARKET OF YAIZE CITY IN SHIZUOKA PREFECTURE.] *J. Fac. Mar. Sci. Technol. Tokai Univ.* No. 26. p. 183-195. 1988. In Japanese with English summ. FR 34(1)
Scomber japonicus and *S. australasicus.*

89-001211 Ikematsu, Masato and Tsunenori Kusakawa. [STUDY ON DISTRIBUTION OF THE MARINE PRODUCTS OF PRODUCING AREAS IN SHIZUOKA PREFECTURE. I. TREND AND CHARACTERISTICS ON SHIPMENT OF THE MARINE PRODUCTS AT ITO AND SHIMODA CITIES IN IZU PENINSULA.] *J. Fac. Mar. Sci. Technol. Tokai Univ.* No. 26. p. 167-181. 1988. In Japanese with English summ. FR 34(1)
Scomber japonicus, S. australasicus, and *Beryx splendens.*

89-001212 Kingsford, M. J. and A. B. MacDiarmid. INTERRELATIONS BETWEEN PLANKTIVOROUS REEF FISH AND ZOOPLANKTON IN TEMPERATE WATERS. *Mar. Ecol. Prog. Ser.* 48(2):103-117. 1988. FR 34(1)
[Zool. Dep. AO8, School Biol. Sci., Univ. Sydney, NSW 2006, Australia]

89-001213 McManus, John W. DEPTH ZONATION IN A DEMERSAL FISHERY IN THE SAMAR SEA, PHILIPPINES. *Proc. Asian Fish. Forum* 1:483-486. 1986. FR 34(1)
[Mar. Sci. Inst., Univ. Philippines, Diliman, Quezon City 3004, Philippines]

89-001214 Mendoza, Nathaniel C.; Wilfredo H. Uy; Lea C. Angsinco and Manuel M. Tan. SURVEY OF CORAL REEFS, ILIGAN BAY, PHILIPPINES. *Proc. Asian Fish. Forum* 1:487-490. 1986. FR 34(1)
[Mindanao State Univ., Inst. Fish. Res. & Dev., Naawan, Philippines]

89-001215 Mines, Antonio N.; Ian R. Smith and Daniel Pauly. AN OVERVIEW OF THE FISHERIES OF SAN MIGUEL BAY, PHILIPPINES. *Proc. Asian Fish. Forum* 1:385-388. 1986. FR 34(1)
[Dep. Mar. Fish., Coll. Fish., Univ. Philippines, Diliman, Quezon City, Philippines]

89-001216 Monkolprasit, Supap. [FISHES ON CORAL REEF AREAS OF KHANG KHAO ISLAND (CHONBURI PROVINCE).] *Kasetsart J.* 22(1):16-23. 1988. In Thai with English summ. FR 34(1)
[Dep. Fish. Biol., Fac. Fish., Kasetsart Univ., Bangkok 10900, Thailand]

MARINE MANAGEMENT AND RESEARCH (CONTINUED)

89-001217 Monkolprasit, Supap and Marnope Kharnjanaburangkoon. [PRELIMINARY STUDIES ON FOOD AND FEEDING HABITS OF SOME CORAL REEF FISHES FROM KO KHANG KHAO (CHONBURI PROVINCE).] *Kasetsart J.* 22(1):24-31. 1988. In Thai with English summ. FR 34(1)
[Dep. Fish. Biol., Fac. Fish., Kasetsart Univ., Bangkok 10900, Thailand]

89-001218 Owen, K. E. THE NORTH QUEENSLAND BLACK MARLIN GAME FISHERY: A CASE STUDY ON ITS ECONOMIC SIGNIFICANCE. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 208-218. 1986. FR 34(1)

89-001219 Porter, Russell G. MARINE RECREATIONAL FISHERY STATISTICS SURVEY, PACIFIC COAST. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 293-294. 1984. Abstract only. FR 34(1)
[Pac. Mar. Fish. Comm., 528 S. W. Mill St., Portland, OR 97201]

89-001220 Savina, G. C. and A. T. White. REEF FISH YIELDS AND NONREEF CATCH OF PAMILACAN ISLAND, BOHOL, PHILIPPINES. *Proc. Asian Fish. Forum* 1:497-500. 1986. FR 34(1)
[Mar. Conserv. & Dev. Program, Silliman Univ., Dumaguete, Negros, Philippines]

89-001221 Shuntov, V. P. [BIOLOGICAL RESOURCES OF FAR-EASTERN SEAS: PERSPECTIVES OF RESEARCH AND EXPLOITATION.] *Mar. Biol. (Vladivostok)* 1988(3):3-14. 1988. In Russian with English summ. FR 34(1)
[Lab. Appl. Biocenol., Pac. Res. Inst. Fish. & Oceanogr., Vladivostok 690600, USSR]

89-001222 Shuntov, V. P.; A. F. Volkov and A. Ya. Efimkin. [COMPOSITION AND PRESENT STATE OF PELAGIC FISH COMMUNITIES IN PACIFIC WATERS OFF KAMCHATKA AND KURILE ISLANDS.] *Mar. Biol. (Vladivostok)* 1988(4):54-62. 1988. In Russian with English summ. FR 34(1)
[Lab. Appl. Biocenol., Pac. Res. Inst. Fish. & Oceanogr., Vladivostok 690600, USSR] *Pollachius virens.*

89-001223 Sjoblom, Veikko; Raimo Parmanne; Eero Aro; Erkki Ikonen; Eero Jutila; Eero Niemela and Eija Valle. [THE RESOLUTIONS AND RECOMMENDATIONS OF THE 73RD STATUTORY MEETING OF THE INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA (ICES).] *Tiedonantoja* 24:69-77. 1986. In Finish. FR 34(1)
[Helsingin Yliopisto, Limnol. Laitos, Viikki, 00710 Helsinki, Finland]

89-001224 Sokolovskaya, T. G. and A. S. Sokolovsky. [SPECIES COMPOSITION AND DISTRIBUTION OF GONOSTOMATID FISHES IN THE NORTH-WESTERN PART OF THE PACIFIC OCEAN.] *Mar. Biol. (Vladivostok)* 1988(3):26-30. 1988. In Russian with English summ. FR 34(1)
[Lab. Fish. Resour. Kuroshio & Lab. Appl. Biocenol., Pac. Res. Inst. Fish. & Oceanogr., Vladivostok 690600, USSR] *Argyripnus atlanticus* and *Photichthyes argenteus.* Data for 18 other species.

89-001225 Tzeng, Wann Nian. BIOLOGY AND FISHERY OCEANOGRAPHY OF MACKERELS AND SCADS IN THE ADJACENT WATERS OF TAIWAN. *Proc. Asian Fish. Forum* 1:511-514. 1986. FR 34(1)
[Dep. Zool., Coll. Sci., Natl. Taiwan Univ., Taipei 10764, Taiwan] *Scomber japonicus, S. australasicus, Decapterus akaadsi, D. macrosoma.*

MARINE MANAGEMENT AND RESEARCH (CONTINUED)

89-001226 Vecchione, Michael. COMMERCIAL FISHING FOR GULF BUTTERFISH, *PEPRILUS BURTI*, IN THE GULF OF MEXICO. *Mar. Fish. Rev.* 49(4):14-22. 1987. FR 34(1)
[NMFS, Natl. Syst. Lab., Natl. Mus. Nat. Hist., Washington, DC 20560]

89-001227 Walsh, S. J. DIEL VARIABILITY IN TRAWL CATCHES OF JUVENILE AND ADULT YELLOWTAIL FLOUNDER ON THE GRAND BANKS AND THE EFFECT ON RESOURCE ASSESSMENT. *N. Am. J. Fish. Manage.* 8(3):373-381. 1988. FR 34(1)
[Sci. Branch, Dep. Fish. & Oceans, P.O. Box 5667, St. John's, NF, Canada A1C 5X1] *Limanda ferruginea* in Newfoundland.

89-001228 Wertheimer, Alex. HOOKING MORTALITY OF CHINOOK SALMON RELEASED BY COMMERCIAL TROLLERS. *N. Am. J. Fish. Manage.* 8(3):346-355. 1988. FR 34(1)
[Natl. Mar. Fish. Serv., Northwest & Alaska Fish. Cent., Auke Bay Lab., P.O. Box 210155, Auke Bay 99821] *Oncorhynchus tshawytscha* in Alaska.

89-001229 Woodward, Ian. AN ANALYSIS OF CATCH STATISTICS FROM THE SOUTH-WESTERN SECTOR OF THE AUSTRALIAN SOUTH-EAST DEMERSAL TRAWL FISHERY. *Tasm. Mar. Lab. Tech. Rep.* No. 23. 90p. 1987. FR 34(1)
[Dep. Sea Fish. Tasmania, Mar. Lab., Crayfish Point, Taroona, Tasm. 7006, Australia]

89-001230 Wright, J. M. RECRUITMENT PATTERNS AND TROPHIC RELATIONSHIPS OF FISH IN SULAIBIKHAT BAY, KUWAIT. *J. Fish. Biol.* 33(5):671-687. 1988. FR 34(1)
[Zool. Dep., Kuwait Univ., P.O. Box 5969, Safat, Kuwait]

89-001231 Young, Cliff, editor. INSTANT REEFS. *FINS* 21(2):12-17. 1988. FR 34(1)

UTILIZATION OF FISHERY PRODUCTS

89-001232 Bandaranaike, S. D. PRESENT FISH AND SHELLFISH CONSUMPTION IN QUEENSLAND AND FUTURE DEMAND. *In: Fisheries Management: Theory and Practice in Queensland. T. J. A. Hundloe, editor* p. 93-114. 1986. FR 34(1)

89-001233 Cha, Yong-Jun; Eung-Ho Lee; Kang-Hee Lee and Dong-Suck Chang. [CHARACTERIZATION OF THE STRONG PROTEOLYTIC BACTERIA ISOLATED FROM LOW SALT FERMENTED ANCHOVY AND OF PROTEASE PRODUCED BY THAT STRAIN.] *Bull. Korean Fish. Soc.* 21(2):71-79. 1988. In Korean with English summ. FR 34(1)
[Dep. Chem., Changwon Natl. Univ., Changwon 641-240, Korea]

89-001234 FAO of the UN. YEARBOOK OF FISHERY STATISTICS - COMMODITIES, 1986. *FAO Fish. Ser.* 63:479p. 1988. In English with Spanish and French summ. Available from Distrib. & Sales Sect., FAO, Via della Terme Caracalla, 00100 Rome, Italy. FR 34(1)
[Fish. Inform., Data & Stat. Serv., Fish. Dep., FAO, Via della Terme Caracalla, 00100 Rome, Italy]

89-001235 Frank, Hilmer A. and Derrick H. Yoshinaga. TABLE FOR ESTIMATING HISTAMINE FORMATION IN SKIPJACK TUNA, *KATSUWONUS PELAMIS*, AT LOW NONFREEZING TEMPERATURES. *Mar. Fish. Rev.* 49(4):67-70. 1987. FR 34(1)
[Dep. Food Sci. & Human Nutr., Univ. Hawaii, Honolulu 96822]

UTILIZATION OF FISHERY PRODUCTS (CONTINUED)

89-001236 Hatae, Keiko; Teruo Nakayama; Yuka Matsui; Atsuko Shimada and Juichiro J. Matsumoto. [CREEP COMPLIANCE BEHAVIORS OF RAW FISH MUSCLES OF FIVE SPECIES.] *Nippon Suisan Gakkaishi* 54(9):1595-1599. 1988. In Japanese with English summ. FR 34(1)
[Fac. Home Econ., Ochanomizu Univ., Otuka, Bunkyo, Tokyo 112, Japan]

89-001237 Heil, Timothy P. and Robert C. Lindsay. A METHOD FOR QUANTITATIVE ANALYSIS OF FLAVOR-TAINTING ALKYLPHENOLS AND AROMATIC THIOLS IN FISH. *J. Environ. Sci. Health Part B Pestic. Food Contam. Agric. Wastes* 23(5):475-488. 1988. FR 34(1)
[Environ. Toxicol. Cent., Univ. Wis., Madison 53706] *Salmo gairdneri*.

89-001238 Heil, Timothy P. and Robert C. Lindsay. VOLATILE COMPOUNDS IN FLAVOR-TAINTED FISH FROM THE UPPER WISCONSIN RIVER. *J. Environ. Sci. Health Part B Pestic. Food Contam. Agric. Wastes* 23(5):489-512. 1988. FR 34(1)
[Environ. Toxicol. Cent., Univ. Wis., Madison 53706] *Stizostedion vitreum* and *Esox lucius*.

89-001239 Hopkins, Margarita L. and Kevin D. Hopkins. TILAPIA MARKETING TESTS IN KUWAIT. *Proc. Asian Fish. Forum* 1:433-436. 1986. FR 34(1)
[Dep. Agric. & Resour. Econ., Oreg. State Univ., Corvallis 97330] *Tilapia aurea* and *Orechromis spilurus*.

89-001240 Kim, Young-Man; Sung-Ho Hur and Dong-Suck Chang. [THE GROWTH OF *VIBRIO VULNIFICUS* IN MEAT HOMOGENATES OF FISH AND SHELLFISH.] *Bull. Korean Fish. Soc.* 21(2):80-84. 1988. In Korean with English summ. FR 34(1)
[Inst. Food Sci., Dongeui Univ., Pusan 614-010, Korea]

89-001241 Lee, Eung-Ho; Seung-Kil Jee; Chang-Bum Ahn and Jin-Soo Kim. [STUDIES ON THE PROCESSING CONDITIONS AND THE TASTE COMPOUNDS OF THE SARDINE SAUCE EXTRACTS.] *Bull. Korean Fish. Soc.* 21(1):57-66. 1988. In Korean with English summ. FR 34(1)
[Dep. Food Sci. & Technol., Natl. Fish. Univ. Pusan, Nam-gu, Pusan 608-023, South Korea]

89-001242 Lee, Tai-Sik; Sung-Jun Kim and Dong-Suck Chang. [BACTERIOSTATIC EFFECT OF CONDENSED PHOSPHATE ON THE GROWTH OF BACTERIA.] *Bull. Korean Fish. Soc.* 21(2):97-104. 1988. In Korean with English summ. FR 34(1)
[Natl. Fish. Res. & Dev. Agency, Pusan 606-032, Korea]

89-001243 Mizue, Kazuhiro and Akira Takemura. ELASMOBRANCH FISHES IN THE NAGASAKI FISHMARKET. *Proc. Asian Fish. Forum* 1:199-200. 1986. FR 34(1)
[Fac. Fish., Nagasaki Univ., 1-14 Bunkyo-Machi, Nagasaki 852, Japan]

89-001244 Oh, Kwang-Soo and Eung-Ho Lee. [STUDIES ON THE PROCESSING OF POWDERED KATSUOBUSHI AND ITS FLAVOR CONSTITUENTS. 1. PROCESSING CONDITIONS OF POWDERED KATSUOBUSHI AND ITS TASTE COMPOUNDS.] *Bull. Korean Fish. Soc.* 21(1)21-29. 1988. In Korean with English summ. FR 34(1)
[Dep. Fish. Proc., Nat. Tong-Yeong, Fish. Tech. Coll., Chungmu 650-160, South Korea]

89-001245 Ravesi, Elinor M.; Joseph J. Licciardello and Linda D. Racicot. OZONE TREATMENTS OF FRESH ATLANTIC COD, *GADUS MORHUA*. *Mar. Fish. Rev.* 49(4):37-42. 1987. FR 34(1)
[Gloucester Lab., Northeast Fish. Cent., NMFS, NOAA, Emerson Ave., Gloucester, MA 01930]

MISC. TECHNIQUES AND EQUIPMENT

89-001246 Bayley, Peter B. and Robert F. Illyes. MEASURING FISH AND RECORDING DATA IN THE FIELD AND LABORATORY: A MICROCOMPUTER APPLICATION. *Fisheries (Bethesda)* 13(6):15-18. 1988. FR 34(1)
[Nat. Hist. Surv., 607 E. Peabody Dr., Champaign, IL 61820]

89-001247 Bayley, Peter B. and Douglas J. Austen. COMPARISON OF DETONATING CORD AND ROTENONE FOR SAMPLING FISH IN WARMWATER IMPOUNDMENTS. *N. Am. J. Fish. Manage.* 8(3):310-316. 1988. FR 34(1)
[Nat. Hist. Surv., 607 E. Peabody Dr., Champaign, IL 61820]

89-001248 Boyd, Claude E. and Harry V. Daniels. EVALUATION OF HACH FISH FARMER'S WATER QUALITY TEST KITS FOR SALINE WATER. *J. World Aquacult. Soc.* 19(2):21-26. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult., Ala. Agric. Exp. Stn., Auburn Univ., Auburn 36849]

89-001249 Caldarelli, K. A. THE USE OF BENZOCAINE IN RECIRCULATION ANESTHESIA OF LABORATORY AND ORNAMENTAL FISH. *Proc. Int. Assoc. Aquat. Anim. Med.* 1(3):28-32. 1986. FR 34(1)
[Coll. Vet. Med., Miss. State Univ., Mississippi State 39762] *Ictalurus punctatus* and *Carassius auratus*.

89-001250 Culp, Joseph M.; Ian Boyd and Nancy E. Glozier. AN IMPROVED METHOD FOR OBTAINING GUT CONTENTS FROM SMALL, LIVE FISHES BY ANAL AND STOMACH FLUSHING. *Copeia* 1988(4):1079-1082. 1988. FR 34(1)
[Dep. Biol. Sci., Univ. Calgary, Calgary, AB, Canada T2N 1N4] *Rhinichthys cataractae* and *Oncorhynchus mykiss*.

89-001251 Hamano, Akira; Satoru Sanetoh; Soutaro Mizutani; Yoshio Sumikawa and Kazuyoshi Uchida. [EFFECTS OF SHIP MOTION AND SURVEY CONDITIONS ON VOLUME BACK-SCATTERING STRENGTH IN ACOUSTIC SURVEY.] *Nippon Suisan Gakkaishi* 54(9):1533-1543. 1988. In Japanese with English summ. FR 34(1)
[Shimonoseki Univ. Fish., Yoshimi, Shimonoseki 759-65, Japan]

89-001252 Khairullah, A.; R. Paul Singh and P. Chen. LIGHT TRANSMISSION AS A CRITERION FOR SORTING PACIFIC HERRING, *CLUPEA HARENGUS PALLASI*, BY SEX. *Mar. Fish. Rev.* 49(4):51-56. 1987. FR 34(1)
[Dep. Agric. Eng., Univ. Calif., Davis 95616]

89-001253 Menin, Albert. FISH COUNTING BY SONAR. *In: Urban Fishing Symposium Proceedings. Lochie Jo Allen, editor.* p. 293. 1984. Abstract only. FR 34(1)
[Bendix Oceanics Div., 15825 Roxford St., Sylmar, CA 91342] *Alosa aestivalis*.

89-001254 Neti, Girija and Hartmut Rehbein. FISH SPECIES IDENTIFICATION BY FISH MUSCLE DRY POWDER AND REFERENCE MATERIAL. *J. Sci. Food Agric.* 46(1):81-91. 1988. FR 34(1)
[Rehbein: Inst. Biochem. & Technol., Fed. Res. Cent. Fish., Palmaille 9, D-2000 Hamburg 50, West Germany]

MISC. TECHNIQUES AND EQUIPMENT (CONTINUED)

89-001255 Plumb, J. A.; John M. Grizzle and W. A. Rogers. SURVIVAL OF CAUGHT AND RELEASED LARGEMOUTH BASS AFTER CONTAINMENT IN LIVE WELLS. *N. Am. J. Fish. Manage.* 8(3):325-328. 1988. FR 34(1)
[Dep. Fish. & Allied Aquacult. & Ala. Agric. Exp. Stn., Auburn Univ., Auburn 36849] *Micropterus salmoides.*

89-001256 Potter, E. C. E. MOVEMENTS OF ATLANTIC SALMON, *SALMO SALAR* L., IN AN ESTUARY IN SOUTH-WEST ENGLAND. *J. Fish Biol.* 33(Suppl. A):153-159. 1988. FR 34(1)
[Minist. Agric., Fish. & Food, Fish. Lab., Lowestoft, Suffolk NR33 OHT, England]

89-001257 Priede, I. G.; J. F. de L. G. Solbe and J. E. Nott. AN ACOUSTIC OXYGEN TELEMETRY TRANSMITTER FOR THE STUDY OF EXPOSURE OF FISH TO VARIATIONS IN ENVIRONMENTAL DISSOLVED OXYGEN. *J. Exp. Biol.* 140:563-567. 1988. FR 34(1)
[Univ. Aberdeen, Dep. Zool., Tillydrone Ave., Aberdeen AB9 2TN, Scotland] *Salmo trutta.*

89-001258 Witzig, John Francis. THE VISUAL ASSESSMENT OF REEF FISH COMMUNITIES. *Ph.D. dissertation, N.C. State Univ.* 206p. 1988. From Diss. Abstr. Int. B Sci. Eng. 49(6):2084. 1988. Order No. DA8815548. FR 34(1)

MISCELLANEOUS

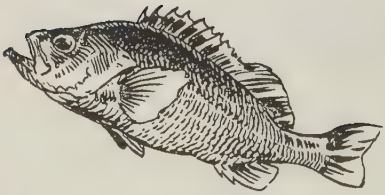
89-001259 Campbell, R. R. RARE AND ENDANGERED FISHES AND MARINE MAMMALS OF CANADA: COSEWIC FISH AND MARINE MAMMAL SUBCOMMITTEE STATUS REPORTS: IV. *Can. Field-Nat.* 102(1):81-86. 1988. In English with French summ. FR 34(1)
[Dep. Fish. & Oceans, 200 Kent St., Ottawa, ON, Canada K1A 0E6]

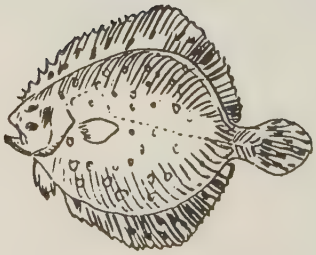
89-001260 Eldon, Tony. CANTERBURY MUDFISH ESTABLISHED IN NEW POND. *Freshwater Catch* No. 36. p. 7. 1988. FR 34(1)
Neochanna burrowsius in New Zealand.

89-001261 Lanteigne, Jacqueline. STATUS OF THE BANFF LONGNOSE DACE, *RHINICHTHYS CATARACTAE SMITHI*, IN CANADA. *Can. Field-Nat.* 102(1):170-176. 1988. In English with French summ. FR 34(1)
[58-2058 Jasmine Crescent, Gloucester, ON, Canada K1J 8K5] *R. cataractae cataractae.*

89-001262 Myers, Norman. MASS EXTINCTION - PROFOUND PROBLEM, SPLENDID OPPORTUNITY. *Oryx* 22(4):205-210. 1988. FR 34(1)
[Upper Meadow, Old Rd., Headington, Oxford OX3 8SZ, England]

89-001263 Scoppettone, G. Gary. GROWTH AND LONGEVITY OF THE CUI-UI AND LONGEVITY OF OTHER CATOSTOMIDS AND CYPRINIDS IN WESTERN NORTH AMERICA. *Trans. Am. Fish. Soc.* 117(3):301-307. 1988. FR 34(1)
[U.S. Fish & Wildl. Serv., Natl. Fish. Res. Cent., Reno Substn., 4600 Kietzke Ln., Bldg. C, Reno, NV 89502] *Chasmistes cujus.*





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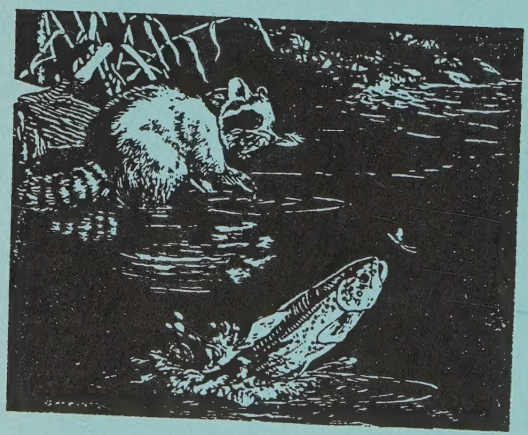

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